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WHITNEY SOUTH SEA EXPEDITION

CONTENTS

MARE ISLAND LOYALTY ISLANDS SURVEY

Brief Geographical Description

Summary of Individual Species

MARE ISLAND

Mare I. Log (14 October 1957-2 February 1958)

Reptiles

Invertebrates

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## CONTENTS

### MARE ISLAND

Brief Geographical Description	pp. 1-26
Summary of Individual Species	27-70
Mare I. Log (16 October 1937-7 February 1938)	71-162
Reptiles	163-164
Invertebrates	165-171





BRIEF GEOGRAPHICAL DESCRIPTION

Mare Island lying between longitude 67 49'-168 7' E. of Greenwich and 21 19'-21 39' S. latitude is about 63 miles N.W. of the southern end of New Caledonia, is a French possession administered from Noumea the headquarters of this French section of the Pacific. It has a population of 3,600 approximately, females outnumbering males to a considerable degree. The natives are Maori type polynesian with a very slight admixture of melanesian, being very similar to the Aneityumese but possibly not as pure as the south side of that island but about the same as the north side.

Mare is a three stage coralline uplift island formed on a small volcanic cone, or possibly more than one cone though at this date only one cone is visible. This cone is still visible even the crater being visible. The present top of the cone is about 350' above sea level. Around this cone a circular chain of coral has formed and higher peaks of it form a ring of islands the same as are just visible above water at Uvea Island in the same group at the present date. The tops of these old islands are from 300 to 350 feet above sea level and their sides are precipitous cliffs of sheer coral rock 100-150 feet in many places and in all cases are very steep. They are dead flat on top. There is a constant ridge of coralline outcrop joining all these old islands and the dead or almost dead flat (slight depression towards centre) plain within this ring is a plateau about 200 ft. ASL. There is then a drop of 100 feet in places very abrupt and in others more gradual, but everywhere having a flat ledge visible between the two uplifts. This secondary plain is very narrow along the N., W., and W.



sides of the higher plains, is narrow along the east, and S.E. very wide and extensive to the N.W. Then another drop to sea level where, in most of the circle of the island, a narrow coastal plain has formed except in parts of De Laroche Bay where cliffs fall sheer to the sea from 100 ft.

There are no old islands along the E. and S.E. sides of the topmost plateau.

It is very plainly seen Mare Island was once almost exactly as Uvea Island is today being an atoll formed on a volcanic cone, with a central lagoon and a submarine shelf outside this in places wide but mostly narrow and a narrow ledge outside that again. A close examination seems to point to the first lagoon and ring of islands having been in existence a long time and having give the coralline polyps time to make extensive coralline reefs in their shelter in the lee of the island. A lift then took place and a shorter period of rest allowed the present narrow coastal flats to form and a third lift raised these a few feet above sea level. It is interesting to note the very similar positions of existing islands at Uvea to the old islands peaks on Mare Island along the E. and S. side the connecting coral outcrop attains its greatest height and would have formed a low ridge much the same as the present one in existence on Uvea Island today, which forms the main low part of the main islands. Possibly between Uvea Island and Beupre Island (and reefs) N.W. of it there would be found a coralline ledge similar to the plains on the N.W. of Mare. It is interesting to note the similarity in distances between Uvea and Beupre Island and similar points and and positions on the areas now above the sea on Mare Island. Say from a point south of Penelo to correspond to Fayuwai on





Uvea and the peak on Cape Roussin to correspond to Beaupre Island (or Doudoune Island might correspond to Beaupre Island or to the Sandbank 5 miles N. of Beaupre). Bad tide rips exist between Uvea and Beaupre seeming to point to the existence of shallow waters except close to Beaupre Island where fair depths are found possibly corresponding to the straits between Mare Island and Doudoune Island.

Just south of the volcanic peak at Rowa on Mare Island, outcrops of stone are found and faint traces of nickel and chrome similar to New Caledonia but nowhere else on the island are such outcrops found. In places volcanic soil is admixed with calcareous coralline but 80 per cent of the island is pure coralline and 10 per cent a little less pure volcanice (better figures would be 80 per cent, 15 per cent, and 5 per cent, probably). Most of the island shows pure coralline outcrops of rock and gardening everywhere, except Rawa, is done in deeper soil patches between these outcrops.

In many places on the island large and extensive caves are found containing the usual lime formation stalactites and stalagmites, blankets, etc., etc: all over the island small caves are found. Some caves with minute openings possibly are very extensive inside. Many caves have no openings but reveal their presence by hollow sounds and vegetation. In places some of the roofs have collapsed leaving crater like holes and in one case revealing further extensive caves carrying on from it in which the roof has not collapsed. It is interesting to note that these caves take the form of parallel fissures with connecting opening here and there these plainly showing the joining of parallel ridges of coral rock by a bridging over of the upper parts plainly showing the mushroom tendency of growing coral.





These caves and collapsed areas have considerable interest and influence on the bird life of the island, as several species use them for nesting and roosting sites.

As regards physical features Mare Island is very uninteresting being a large plain with flat topped peaks around it, a large plain a little lower to the N.W. and narrow margin elsewhere, and a narrow coastal strip all around except in a few small areas in the N.

The island is fertile in spots between rock outcrops but nowhere is it of a true tropical fertility, except in the volcanic cone Rawa area and this area is almost completely under gardens.

Rainfall is I imagine 40-60" per year and long dry spells occur, almost droughts. Nowhere does surface water appear except for a day or two after heavy rains. Strong fresh water springs come out in places along the coast, but below low tide level. There is not one single river in the whole island or small stream of any sort.

Temperature is very mild, ranging between 65 and 85 degrees and only two months of the year are anyways hot and unpleasant.

It is a very healthy island, no mosquitoes, no fever or filariasis (Elephantiasis).

#### MARE ISLAND, LOYALTY GROUP, W. PACIFIC

##### Variations in soil and vegetation

Mare Island has only 4 types of soil and 3 main types of vegetation with one or 2 minor types and the artificial type of garden lands.

The four types of soil are pure volcanic red loam, vol-



canic and coralline admixture, pure calcareous sandy loam, and pure coral rock outcrop.

The pure volcanic red loam covers not more than 5 or 10 percent of the whole island is is 90 percent under native gardens, coffee plantings native owned, and native gardens in fallow. The tallest trees on the island and most luxuriant vegetation is found on the remaining 10 percent of the area which is too rocky and rough for cultivation.

The volcanic coralline admixture represents 10-15 percent of the whole area of the island and is almost entirely under cultivation.

The pure calcareous soils represent about 40 percent of the island and are much cultivated between rocky outcrops but a great deal of the area is covered with original forest, especially in the south, from 30-40 feet high.

The coral rock outcrops are actually bare rock outcrops or very shallow soil over pure rock and cover 40 percent of the island, 50 per cent of it being pure rock outcrop. This pure rock outcrop grows a low 20-25 feet stunted forest with a type of rock fer (birds nest) ground brush or cover but is a pretty open type of forest.

Vegetation divides itself into 3 main groups. Tall forest, stunted forest and grassland plains. Tall forest is in 2 types. Volcanic and lower trees on coralline types.

Volcanic forest This is a tall 60 ft. forest with much secondary scrub and the bird nest fern very dense on the ground except where rocky outcrops are pure rock without soil. Many vines and creepers grow and generally form a dense forest very similar to certain islands in the New Hebrides. The area is so small it has little influence on bird life.





Coralline forests These are about 40 ft. in height and less and are stunted trees with a scanty underbrush and secondary growth but a dense ground cover of birds' nest ferns. Mostly a forest of straight poles but undoubtedly original forest. Vines and creepers are absent and there is a good deal of pandanus amongst the secondary growth and but few small trees and shrubs. They are never the less fairly dense and harbor considerable insect life and molluscs are common on the ground and in birds' nest ferns. Banyans and fruit and berry trees are common throughout these forests (as) is also the candle nut (Alerities?) in great numbers. Stunted forests are in 2 main types and a sub type of small area.

The larger of these types is a close growing pole forest which grows on pure coral outcrops and soil pockets in between and reaches a height of 25 ft. being very even topped. There is little or no secondary growth but the ground is sometimes densely sometimes sparsely and sometimes bare or patchily covered by the birds' nest fern. Fruit and berry trees are fairly common and odd stunted banyans are found. New Caledonian pine is common in such types of brush. This type is original forest but much stunted is subject to fires in dry times as wherever suitable depth of soil is to be found in pockets natives make gardens and when burning in dry times allow fires to get away from them. These areas are intermingled with the lower types of scrub in irregular patches and also in places have extensive gardening areas and coffee plantations (native owned) throughout them.

The shorter of these types is the same as the other but owing to garden activities and rotations practiced by natives has not yet attained the height of the other and has a good





deal of secondary growth amongst it. (This is on deeper soil).

Both have a good deal of insect life and molluscs and the former a fair amount of fruit foods, the latter has less trees not having reached maturity. Passion fruit vines gone wild from gardens are common in this type area.

In certain areas a more branchy open type of scrub is found reaching a height of 25 ft. with a considerable amount of underbrush, few vines and ferns on ground. These areas are generally in narrow strips along the edges of the plateaus, but are nowhere extensive. They have numbers of flowering trees, a few fruit trees and stunted banyans, much insect life.

Short scrub. These are of hardwood trees, guava, lantana, etc. and are generally very tangled and dense where any depth of soil is present and thin and sparse and stunted where soil is shallow. Anywhere where the soil is of any depth as around La Roche, Tuoho, etc. natives clear and make gardens on it, also here allowing fires to run over much greater areas than those used for gardening. Around L Roche gardening is so intensive and extensive and the rotation practiced so short that the scrub is only 4-5 ft. high and in places 8-10 ft. and nowhere very denser. These areas may have originally been low scrub similar to that on the lower N.W. plateau or owing to intensive cultivation developed into similar type of country but it is so heavily cropped that its original state is hard to arrive at.

The N.W. lower plateau and around Penelo and along parts of the coast a low type of Ti tree scrub mixed with stunted hardwood Acacial (Mare, as on Erromanga) is found. This is an open type of scrub with bare patches of ground in between which grow a kind of moss or lichen. These areas of scrub also border





the open grassland in narrow strips in places. I believe these areas are caused by partly shallow soil and partly by the presence of caves underground which cause rapid drainage of the water and rapid drying of the ground. It is mostly in this type of area that collapsed caves appear (1 instance in 5 seen by me occurred outside such areas). These cave areas are also visible and present in the grasslands area and show their presence by a barer less fertile grass shrub growth.

Roughly speaking the area in a strip along the Tadine-La Roche road is lantana, guava type scrub and Lan Roche-Penelo, N.W. plateau and narrow grassland margins are the ti tree hardwood type. But no real definition can be made as all types of areas are much mixed up and most irregular in area shape and occurrence.

Also along certain sea margins a good deal of the hardwood and ti tree scrub mixed with coconuts and coastal scrubs are found.

GRASSLAND PLAINS (Grass called Lang Lang in Malay; KUKU-KUKU New Guinea). These extensive plains of the center of Mare are very irregular and extensive, and are a long grass, stunted cane, ferns, guava, etc. low 3 ft. shrubs etc. It is subject to almost annual fires. There is much young sandalwood through it which never gets a chance to grow and many types of bushes such as berries and seed bushes and guavas and ti trees all of which if left might grow into low scrubs. These fires are injurious to bird life and their food; consequently bird life is fairly scarce on the area except along the margins of forest lands. Fires are very rapid and do not kill the vegetation but merely scorch it and retard growth which again springs from the roots. All over the grasslands patches a few





acres in extent of tall forest, banyans and fruit trees are found indicating a greater depth of soil and these carry bird life prolifically. In places these plains are really more like savannah type country reversed, i.e. instead of forest with grass patches, grasslands with forest patches; as nowhere do these forest patches connect up with each other or the outside forest or scrub areas. In many places for a mile or more almost pure rocks with here and there pockets of soil or a scanty 1 inch layer of soil are found and they grow mostly a scanty bracken or rock fern and a few 18 inch shrubs and a scanty grass. Coral fern is common all over the area in small patches. If a patch is not burned for 2 or 3 years birds begin to inhabit it and even nest in the low 3-4 ft. shrubs.

Fires are started to give fresh grass for domestic animals or escape from garden lands around in margins or in the small forest patches in the interior or are wantonly started just to see fire run the latter being the commonest occurrence and reason.

#### BRIEF SUMMARY OF BIRD LIFE

The general bird life on Mare seems prolific at first glance but a closer examination shows that only certain species are common and others extraordinarily rare and that the general total of bird life is far below what it should be. Fruit eating garden frequenting birds are common, forest birds are rare. In the not too distant future in the observer's opinion Mare Is. will suffer badly from insect plagues owing to this decrease of bird life.

It was not till 2 or 3 weeks of bush work had passed that the observer was so noticeably struck by these absences and from





then on close observation made him draw the following conclusion and I believe a pretty accurate picture of the cause of it has been arrived at.

The first signs which brought the fact to the observer's notice was that one could travel 2 and 3 miles in real forest and find perhaps 1 dozen birds in that distance and these would be 6 or 7 Coracina,

(NOTE: The name Coracina has been used here but Corvus is meant. Also crow has been used, but in all cases this should read as Corvus as I believe that is what this introduced species is.) 2 or 3 Philemon, 4 Gerygone and nothing else. Perhaps a few Zosterops flavifrons might be seen if gardens were anywhere near. After weeks of observation the observer came to the conclusion that the decrease in bird life was due to the following causes and their degree of blame somewhere about:

1. Introduction from New Caledonia of Coracina - 80%
2. Destruction of bird food by fires in certain areas - 10%
3. Alienation of land for cultivation - 5%
4. Possible introductions of other pests affecting food - 5%

Dealing with each in turn and history and summaries and notes of each.

1. Introduced Coracina (or Corvus ?)

Twenty four years ago the New Caledonia administration very unwisely introduced the New Caledonia Coracina (or Corvus (Physo-corax) moneduloides(?)) to combat a large locust or leaf eating insect which was doing much damage to coconut palms on the islands without first making close investigation into the birds' habits. A large number of these birds of both sexes were released





at Tadine in the SW and have now spread all over the islands and are very common in all forest areas and a few are found almost everywhere. About Tadine where forest lands are extensive and coconuts scarce this crow is very common being a forest dweller and it is here that the locust is worst. The crow seldom or never visiting coconuts has had no effect on the pest, yet near Wabao and Nedu in the south where extensive areas of coconuts grow on the coastal flats the pest does no damage and Coracina is entirely absent, but natural coconut dwellers and other birds are common and evidently keep the pest under control. In this observer's opinion Halcyon does more to check this pest than 10 Coracina and an Accipiter does more than 200 Coracina. About Tadine Accipiter is rare as owing to its habit of attacking domestic chickens whites in residence there and the greater number of natives with gun permits in that area make it most unhealthy for Accipiter, whereas along the south coast guns are few and also there the extensive coconut groves make Accipiter's favorite habitat and the bird is fairly common in the area and keeps the insect pest in check.

Coracina as said before seldom visits coconuts or open types of country but is almost entirely a forest and scrub dweller. The observer has actually seen Coracina attack all the following birds and kill some of them: Philemon, Lalage, Halcyon, Rhipidura, Gerygone, Zosterops, Myiagra, Aplonis, Columba, Ptilinopus greyi. I have seen it with a young Halcyon, Gerygone and Zosterops adults in its beak and saw it kill an adult Aplonis.

Its worst attacks are on young and nests and everywhere damaged nests are to be found in forest area. Close observation by an ardent bird lover 24 years residence on Mare have made him





a bitter enemy of this introduced bird but owing to the ignorance of local authority in such matters the government have been stringent in their protection of this bird and he has been able to do nothing. He declares, and his observation is reliable, that all the following birds have steadily decreased since the introduction, (and latterly rapidly) of Coracina. To an enormous degree, Ptilinopus greyi, Columba, Turdus to the point of extinction, Rhipidura, Gerygone in forest areas only. Myrpomula to almost extinction, Zosterops in forest area, to a lesser degree. Porphyrio, Aplonis, Halcyon, Lalage, Myagra in forest areas, Philemon, Lichmera very little;

Owing to Lichmera mostly inhabiting coconuts and driving Myrpomula away into forest areas this species has been badly hit. Turdus another forest dweller is almost extinct.

My own personal observations entirely bear out this observer's conclusions. A summary of the position is that forest frequenting and nesting species which do not nest in hollows, have suffered very badly in eggs, young and adult. Those which nest in hollows, young and adult, especially in the fledgling stage. Garden and open types of country nesters and dwellers almost not at all. Taking species by species it appears as follows:

Turdus a forest dweller which makes a conspicuous large nest has suffered to the point of extinction. Also this species has had a further attack to withstand in attacks on its food supplies as Coracina eats its principal food, snails, fire and disease have also attacked the snails. Even so there is ample snail life to support many thousands of Turdus where as I doubt there are more than a few hundred if that number left. Possibly 100 or less would be a nearer estimate. Natives have noticed as Coracina increased in an area Turdus decreased. In 1912





the southern forest area was swarming with Turdus, today though I marched and cross marched backwards and forwards through the area and had hundreds of natives on the lookout for the bird in that area, not once did we see or hear of one. Any that are left today are found in low scrubs in the more open areas where food being scarce they are necessarily few and far between. At certain gardening seasons they used to appear to go over the fresh turned soil but reliable observers amongst natives say they are few and far between now. One reliable observer has seen 1 in the last 5 years, one 5 in the last 5 years and 1 only in the last 3 of those. Many unreliable observers knew where they were and had seen them but when given a gun and an offer of 50 francs either failed to see one or brought in an Aplonis. (In pidgeon Franch they call the bird "the bird that taps the snail" - and Aplonis does this also).

Myzomela This bird driven away from coconuts by Lichmera is found more in forest areas. Being conspicuous it has suffered from Corvus. Also no doubt its nest eggs and young have suffered.

Columba A forest nester uses the tops of the secondary growth of pandanus much for nesting and its eggs would be conspicuous to a bird in the tree tops above it. Its young also are helpless for a long time and would be an easy prey to Corvus in this stage. Being a single egg layer any attack on it would be quickly shown in decrease of numbers which is the case. This bird also has to stand human attack as it is the only large eating pigeon on the island. Between Rawa and La Roche this bird is at its commonest on the island and there are very extensive garden areas and little forest and few Corvus.

Ptilinopus greyi has suffered to a less degree than Columba possibly because it nests less conspicuously and in





garden areas where Corvus is rarer. It is also more numerous and possibly suffers to a less degree from human attack though there is some doubt of this as natives eat it a great deal and it is generally speaking easier to get than Columba.

Rhipidura has suffered in forest areas, probably mostly in the fledgling stage as it is then a noisy little caller and would attract Corvus. Its commonness is in inverse ratio to Corvus all over the island though it is nowhere common. It also has to stand attacks from fire on its food supplies. Probably it has never been very common and for this reason quickly shows an attack on its numbers.

Gerygone It appeared to the observer that on Mare there were 2 forms of Gerygone - one having a white eyebrow and pure white unders and lemon patches on the flanks; the other always having a yellow eyebrow and different degrees of lemon wash on all the white under parts more or less covering the whole areas of the unders. The former is a forest dweller and the latter inhabits lower ti tree scrubs and garden lands and lower types of scrub areas. There is some admixture on the margins of these types of areas and odd strays of the former are found considerable distances into lower types of scrub and into the shrubs of the grassland areas (but always within a mile or so of tall forest around and in grasslands) but the latter is seldom or never found in the former's area and never far into it. This former white eyebrow type is one of the commonest birds on Mare but has suffered greatly from Corvus. There are very few to be found in absolute forest areas but around its margins it becomes common in inverse ratio to Corvus. The yellow browed species is not common anywhere except in La Roche garden area and the NW plateau



scrubs where it is slightly more numerous but I do not think it has suffered much from Corvus. The observer has an idea it is a recent arrival but there is no proof of this. (It is possible there is only the one form on Mare as subspecies should not inhabit the same area but this point will be settled by you. It is of interest to note that the Uvea bird seems similar to this yellow browed form on Mare; as far as the observer has been though to date no definite adult has been got on Uvea Is.)

The white browed form suffers much in forest areas in its nests as it is common to see nests torn by something in these areas. Fledglings they are noisy and probably suffer much at this stage. Adults also suffer as the observer has above recorded seeing Corvus with a Gerygone in its beak beating it on a branch preparatory to eating it. Corvus visits the margin lands also and no doubt attacks it there but it is in real forest areas that it has suffered its greatest attack. A reliable native has told me of the decrease of this bird in forest areas of the south where it was once common and is now scarce.

Zosterops Flavifrons which inhabits garden lands and forest areas suffers to a certain degree but owing to its rapid natural increase is still very common. Also with the increase of garden areas its food in such areas has increased. In real forest areas it is not anywhere nearly as common as it should be, nor where garden areas are close to or in forest areas is it as common as it should be probably because of Corvus. This bird is safe as it can breed away from Corvus in garden areas and from these repopulate forest areas. In observer's opinion it is a great deal due to this bird that Mare has not yet suffered





insect plague to any great extent though signs of trouble are visible even now.

Being a rowdy fledgling it would probably be in that stage it would suffer most. It hides its nest well and would not suffer much from nest attack. I think Corvus travel in small parties of 3 and 4 mostly. When one Zosterops was attacked especially a fledgling, others would gather around giving their alarm call and would probably suffer from other members of the crow party attacking their little mobs.

Porphyrio: to a less degree and principally in the egg stage.

Aplonis: Not much in the eggs stage if at all as it is a hollow limb nester (but it is worth recording that Corvus has been found dead with its head jammed in a nesting hollow,) but the young are noisy and probably suffer much in this stage. As adults it feeds to a considerable extent on the ground on fallen fruit, seeds and snails and it was there I saw Corvus swoop at an adult and almost decapitate it with a terrific whack of its beak.

Halcyon: Has suffered to no appreciable extent and I think only in the juvenile fledgling stage and I only record it because of the actual instance seen.

Lalage: suffers to a very small degree and possibly only because of its habit of perching in prominent positions.

Myiagra: also only suffers to a small degree and then probably mostly because of its habit of attacking Corvus and being taken in the rear by other Corvus. I have seen this happen though Corvus missed a kill. In the fledgling and nest stage it probably suffers a little. It is common in coastal areas and scrub lands where Corvus is rare but rare in forest





areas where Corvus is common, though fairly common in such areas as Corvus is scarce. This may or may not be due to Corvus but evidence seems to point to Corvus being responsible.

Philemon: Though it is attacked in the adult stage I believe it is in the nest and egg and fledgling stage it is mostly attacked. It is a noisy fledgling. I have called adult Philemon to me in the bush and seen Corvus silently sneak up and attack it in the rear but miss. Thought Philemon also attacks Corvus. It probably gets the worst of such encounters. It is very noticeable that the numbers of Philemon go in inverse ratio to the numbers of Corvus. In the Wabao Nidu area Philemon reaches its greatest numbers and it is in these coconut areas Corvus is least common. Philemon attacks the coconut leaf locust, and it is due to its efforts principally, I believe, that this pest is negligible in this area, especially in its younger stages and when it first emerges does Philemon attack it. It breeds in the ground and then crawls up the coconut and while on the main bare trunk I have seen Halcyon and Philemon several times attack it.

Lichmera: is very common and suffers to very little extent and then only where it inhabits small areas of palms in the midst of forest areas. Corvus can almost be absolved of any guilt on the part of this species and it is consequently one of the commonest on the island.

Native fowls, domestic fowls, fowls gone wild: All suffer to a very large degree from Corvus. They will steal their eggs and chickens from the very doors of native houses and from white residents' places. Wild fowls make a cackle when laying as do domestic fowls and this invariably attracts Corvus. I



have actually had a Corvus under observation when perched sleepily in a tree, heard a fowl cackle, seen Corvus lift its head listen and silently set off through the bush to investigate and I have closely followed it right up to where the fowl was. Wild native fowls are very scarce on Mare where they were once plentiful and a native has said, "By and by we fellow no got fowl, plurry corbon and falcon (accipiter) kai kai all."

There is no doubt Corvus is a thief and butcher and was a most unwise introduction to Mare and soon there will be a whirlwind to reap for this unwise act which was certainly done for the best but in ignorance as it is absurd to expect this forest dwelling bird to do much to a pest in open areas.

(E.M. I have certainly painted the crow black but it deserves it. L.M.)

## 2. Destruction of bird food by fires in certain areas

This affects insectivorous birds mostly though a good deal of fruit trees are damaged but fruit eaters are wider ranging birds than insectivorous birds like Rhipidura which is a definite bird of territory on Mare. These fires generally start in forests or scrub areas from fires made by natives to burn leaves and branches of trees on gardening sites. As they generally burn at the driest time of the year the bush surrounding is then also driest fires run in it very easily. A native will often clear 2 acres for a garden and fire it and the fire will be left to burn 40 to 50 more acres of forest and sometimes square miles of it. This destroys the humus and leaf mould that is the insect breeding ground as well as destroying insects and their eggs. Also many snails and molluscs are thus destroyed. It is noticeable that where such fires do not run Rhipidura is most often found. If





it was not for these fires it is possible Rhipidura would be much more common in certain areas away from Coracina. What is true for Rhipidura is also true for Myagra though Myagra will inhabit open gardens more than Rhipidura and does not suffer so much. Gerygone also suffers in a less degree from these fires but parallels Rhipidura in that where such fires are not common it increases in numbers.

It is interesting to note in connection with this that in absolute forest areas, where fires do not occur, one would expect to find them more numerous because of the prolific insect life, they are rarest, it is in these areas Coracina is most common. A further indication of the guilt of this species. It is in the intermediate areas where Coracina is very common that they reach their greatest numbers they are much more numerous in the unsuitable areas of fire and gardens than in the most suitable forests.

Turdus undoubtedly suffers from the destruction of its mollusc foods and this in conjunction with Coracina has been too much for it. Myzomela though attacked has not suffered in its food and so is still present though not common.

In the grass areas the fires are chronic and though the government and chiefs who own this land have a law which makes anyone responsible for fires liable to a 100 franc fine it can never be enforced owing to lack of evidence or anyone to give evidence against persons in on it. Generally these fires are started by irresponsible persons crossing the area who own no land there or have any interest in it who wantonly start the fires just to see them run and they burn for miles. There are many young valuable sandalwood trees in the area which never get





a chance and which the government did not know werethere, now this asset has been pointed out to them by the observer more stringent methods may be adopted and fires decreased.

Natives and whites have told me that 20 years ago Turdus was so common that at certain seasons it appeared in great numbers on these grass plains to feed. Now it is never seen there, though in places where no fire has been for a couple of years mollusc life is very prolific. A few Turdus are said to inhabit the surrounding low scrubs at this date. This points to a further indictment of Coracina as it is here the last of the species are evidently and not in their natural forest habitat, and Coracina is never seen on these plains except along the southern forest margins, and seldom in the north where the last few Turdus may be.

Fire is certainly responsible for a lot of destruction of bird life and food but I do not believe the amount is responsible for it would have any serious effect on bird life if it was not for Coracina but in conjunction with that it certainly becomes serious.

3. Alienation of land for cultivation. This is not very serious but is noticeable on its effect on certain species such as Gerygone, Rhipidura, Myagra, Myzomela, possibly though doubtful.

Formerly natives made gardens of an acre or two and then allowed the ground to go back to bush in their rotation and consequently such birds as favoured these secondary growths were given fresh feeding areas and the balance was always about even. Today owing to Noumean and New Caledonia demands for fresh vegetables etc. and the natives' desire for money from



corn and coffee today their taxes and their increasing demands for European foods and articles most natives clear 5, 10 and 20 acres and chiefs have 60, 80 and 100 acre clearings for gardening and corn etc. This would probably make little difference eventually if such areas were allowed to return to bush but this is not so. Having the land already cleared natives plant it up with coffee and keep it under such cultivation. As coffee is clean weeded no underbrush forms and though a few trees are used as shade trees they are insufficient to encourage birds which prefer more scrubby types. Zostrops and even Erythrura to a small degree are encouraged by it but Rhipidura, Gerygone, Aplonis and Myagra are not. Lichmera is as generally coconuts are planted also often as shade. Such open types of country give natural enemies such as hawks more opportunities to capture their prey and Accipiter particularly frequents these cultivations. Possibly the birds most affected by this are ground feeders such as Turdus and rails and to a less degree Porphyrio. All fruit eaters are affected to a certain degree in that figs, banyans (though often left as shade) berry and seed trees and paw paws do not grow in these areas and are not allowed to grow as they would be if the garden was allowed to return to forest in its rotation. Coconuts are also planted in these garden areas but these not being clean weeded and a certain amount of scrub allowed to grow between them attract and feed a certain number of birds, especially Lichmera and to a lesser degree, Erythrura, Zostrops, Lelage (not much).

Gerygone is possible the worst sufferer as it evidently needs a special type of forest otherwise its absence in southern New Hebrides would be hard to account for, and coffee is foreign





to it and it is seldom seen in that growth though it does very occasionally visit the shade trees above it, it is fairly often seen in coconut plantations where low scrub has been allowed to grow and this is native scrub and not foreign. Even so, Gerygone is common enough to be in no fear of extinction and and possibly cultivation areas have little serious effect on its present status and certainly no serious effect worth considering. Certainly not as serious an effect is seen on it from this cause as from its natural parasite Chalcites.

Nature has guarded against serious results in insect pests in these extensive garden areas so far by the enormous in Zost flav. Wherever burning takes place paw paw (papayan) grow and these feed this species to a large degree. Lately a similar increase is taking place in Zost. lat. but to a much less degree. It is noticeable that the natives make no distinction between the 2 species of Zosterops in name, possibly previously Z.lat. was less common (they say so anyway) and unnoticeable or may even be a comparatively recent arrival. Zost. flav. is a busy little worker in garden lands and native agriculturalists on Mare owe this busy little bird a tremendous debt. In spite of such areas increasing its dangers of attack from its natural enemies (hawks) it is so abundant and the increase in its food resources so increased that it shows little or no effect of decrease from such causes. Early morning and evening it ventures across open garden lands and is always to be found around the scrub or forest margins of gardens. It is worth noting that Accipiter frequents such place, also no doubt because of the abundance of opportunities of getting food there from these large numbers of birds congregated in a small area. It also hunts through coconuts and villages and in all types





of open country and semi open country is very numerous but in forest areas is not common. Elsewhere (New Heb. etc.) Z. flav. is more of a forest and scrub frequenter. Z. lat. the open type of country frequenter but on Mare both frequent the same area, Z. flav. even being common on open grasslands far from scrub.

#### 4. Possible introduction of other pests on food supplies

At some past date a Frenchman introduced snails for edible purposes from France. These brought some disease which though almost harmless to the introduced variety has killed off many of the indigenous molluscs so that in certain areas they are now extinct, more especially so where the first introduction took place. The introduced variety being a garden variety has not replaced the native bird in forest areas and is only found around gardenlands where European vegetables are grown. Even so in most areas there are still ample molluscs to support a very large bird life which might feed on such food and this cause cannot be blamed for the decrease of Turdus as there are sufficient snails left to support at least 10 thousand and possibly more of that species.

It is just possible other such things have been introduced with other introductions and have had a detrimental effect of bird life food.

Though I place 5% as the cause of decrease from this cause I do not believe it is nearly as much as that and have only given that figure nominally as coffee and European vegetable cultivation also come into this to a certain degree as importations detrimental to bird life food in that they displace natural foods. Possibly 1% would be a nearer figure but for easy splitting I have put it at 5% taking into consideration possibly



other unknown instances and the degree of plant introduction displacing natural foods.

### Summary

A survey of the island bird life as a whole shows a population much below what it should be though at first glance this is not apparent because of the vast increase in Zosterops and to a less degree in Lichmera and to such hollow breeders as Halycon and Aplonis and to Swifts and cave breeders such as Erythrura but a look below the surface reveals a bird population much below what it should be. Also though decreasing and suffering to a large extent, such large breeders as Gerygone Lelage, Myagra, etc. which are not solely forest dwellers and breeders help to give an impression of an ample bird life. But a visit to the silent real forests quickly reveals a different picture on going into the pros and cons of each species and their places of most numbers seems to point to the introduced crow as the main cause of this state of affairs and actual eye witness of the attacks of this bird on others even such species as Halycon, pugnacious as they are, when in the helpless stage there is little doubt the blame can be laid on the crow for the present sad state of affairs.

I would be loth to advise the extermination of the crow to remedy the present evil as there are now so few birds in certain areas to take its place that the last state might be worse than the present, as bad and all as the crow may be, it must do a great deal of good and destroy enormous numbers of insects etc. in the forests at other than nesting seasons, though these cover a long period on Mare, and should the check they at present hold on forest pests be removed serious plagues might arise from those areas. A gradual killing off





of the crow might be feasible but would become difficult. Sub rosa there are a number killed a year because of their attacks on native and domestic fowls but owing to fear of government wrath these are buried and not known of, even so the annual increase is great. Possibly when forest areas become overcrowded this adaptable bird will spread to more open areas and then woe to Mare bird life in all forms except migrants. Possibly in New Caledonia eagles and large hawks keep this bird in check whereas on Mare the largest Corvus and this is too timid to attack Corvus and Falco which might attack Corvus is rare and mostly found near La Roche where Corvus is absent. Also so far Corvus is a forest dweller and not easily attacked by such species and as it frequents the middle layers and under sides of the forest canopy is mostly invisible to such attackers. Possibly New Caledonia country is more open and does not afford this bird such good protection and cover while going about its depreciations.

Though many birds on Mare are still very numerous and even some of the species attacked by Corvus (such as Gerygone) they are not as numerous as they should be as time goes will I think decrease further, one can say Mare life is much below what it should be and the position is not good. Also owing to this unnatural attack natural enemies which are not decreasing or suffering the same attacks such as birds of prey and cuckoos which migrate and the ever present attacks from humans consume serious proportions and it is in the species most subject to these and purely forest dwelling birds that the results are most noticeable. Mare bird life was undoubtedly once much more prolific than it is today and an idea of this prolificness is current in Noumea today, and though the bird life on Mare today may appear more prolific than in New Caledonia the writing is





on the wall and it is just possible New Caledonia scarcity of bird life is due to the principal reason of Mare's decreasing bird life.

Turdus once very very common is gone or almost gone. Myzomela once fairly numerous is getting rare, forest birds are scarce and except for the raucous call of the crow Mare's forests are nearly silent. There is more hope in the more open areas where bird life is still prolific in a few species holding its own in some and perhaps slipping in others but the future for most species looks black to this observer. I hope I am wrong but even unobservant residents are being forced to the same conclusions.



SUMMARY INDIVIDUAL SPECIES

Also notes in answer to E. Mayr's queries in booklet and daily notes from day to day (but these are often incorrect suppositions and subject to the summary which is made at completion of work in Uvea and corrections of later day.)

SUMMARY1. Demigretta (sacra)

Appears the same as elsewhere. Is fairly common along the rocks of the coast and nowhere does it go inland.

Breeds on the island often in New Caledonia pine trees which are common along coastal flats. Numbers of rather mottled ones and duller juveniles were seen.

No whites were seen and if the moult speckling of one sent you (i.e. change juv. to a adult) what you call the speckled phase a number of these were seen but no count was kept. Blues seen totaled 10 including above mentioned mottled ones and skins taken.

Natives say whites never appear on Mare Island.

2 specimens taken Sk. No. 88A, 104. ♂ ad.

Day to day notes from Log.

(27 Oct. '37. Saw 1 blue Demigretta

(29 Oct. '37 " 1 " "

(31 Oct. '37 " 1 " "

(Almost appears as if same bird seen at different times).

(4 Nov. '37 1 blue Demigretta

(5 Nov. '37 1 " "

(21 Nov. '37 1 " " (1 shot) fishing on rocks at low tide.

(22 Nov. '37 2 " "

(5 Dec. '37 1 blue Demigretta (shot) Has white tips to tail feathers.

(7 Dec. '37 1 " " (about 8 miles)

(3 Jan. '38 Walked to Medu 2/3 along coast, saw no Demigretta.





SUMMARY2. Accipiter (fasciatus vigilax)

Fairly common all over island. Generally prefers semi open types of country like coconut plantations (native) and open types of scrubland but not grasslands, which it only occasionally visits. It hunts much in real forest, generally flying below tree top level if hunting and only above the trees if traveling from place to place and not seriously hunting, or when playing or cruising. A pair will often tumble and play in the air rising to great heights and occasionally one will do so on its own. When playing appears to turn somersaults and generally appears to thoroughly enjoy itself in its gambols.

Frequents the vicinity of native villages and gardens where domestic fowls and chickens are on which it feeds much, no doubt finding them easy prey.

Is shy and wary but not as much as on Anutyum where natives all have guns.

Frequents coconut groves and semi open types of scrub much. Hunts in deep forest to a considerable extent and is occasionally (sight record) seen on open grasslands plains far from trees which it perches in low shrubs. Generally speaking it frequents coconut groves and garden lands but may be met with all over the island.

Has wonderfully good eyesight and its colour scheme blends with surroundings and is very inconspicuous when perched, and as it remains motionless for long periods is very hard to pick out even in a bar dry tree at 30 yards though one may know it is present by peculiar calls of certain species especially Zosterops and domestic fowls. One generally walks on them





suddenly and accidentally from round a twin in the track. If they see a human, they either fly startled and conspicuously away (seldom) or silently drop off the limb and slip away as inconspicuously as possible (generally) often keeping the trunk of the tree, a shrub or something between them and the observer and keep low till well away. They invariably attack prey from a perch and observer has often watched them land in a tree or coconut (often) and watch domestic fowl and chickens which become greatly alarmed. Accipiter will then remain absolutely motionless for half an hour and more till the fowls have forgotten its presence when it will silently launch out on a still glide seldom miss its strike. I don't think it ever strikes from the wing but always perches first. Even in open country it perches on a low bush and strikes from a flat glide, necessarily slower, when it could strike faster from a high wing position overhead. I noticed this also on Aneityum.

When feeding on the ground, it often devours its prey there, it keeps a most vigilant lookout and every half minute or so leaps into the air and takes a look around over the tops of the surrounding grass or shrubs. It can be stalked up and at such times with care and if the stalker only moves for 10 or 15 seconds after it jumps up and then remains absolutely motionless and turned half away or in hiding till the next jump of the bird.

It rests on a flat fork in a tall thin tree generally 30 or 40 ft. up. Nest a platform of sticks, rather scanty with a few leaves and fibres in it. Number of eggs unknown to observer. Nesting season July, Aug., Sept. on Mare Island. (They evidently need many kills to satisfy their appetites and must eat enormously. Is generally a very silent bird, calls seldom.)



Answer to Mayr's NotesE.M. Adults rather rare.

What observers say so? Not my experience on Mare of 6 specimens taken there. None were juveniles and I arrived just after the nesting season. I saw no absolutely definite proved juveniles but believe I had sight of about 3 which may have been juvenile. Undoubtedly juv. are present but I obtained none .

E.M. Do immature birds nest?

I do not think so thought they may and one I got on Aneityum seems to point that way. H. Freeman on Aneityum after years of observation (casual) does not think they do. Since coming to Uvea I have seen 1 ad. ♂ definitely in company with a juv. ♀ but this may have been a parent and young and the gonads would seem to point to this but inconclusively as it is so far from the breeding season. Also against the condition of gonads is the fact that most birds of prey do not long remain with their young but drive them away early. But at present no conclusion. (Am keeping a good lookout to decide this matter.) ♀ seem to outnumber ♂ but this is possibly due to their being more fierce and hunting more.

Day to Day Notes (subject to above summary which is later)

N.B. Garden lands include coconut groves.

16 Oct. 1937 Saw Accipiter

25 Oct. '37 Saw 1 Accipiter over forest lands, flew to great height.

25 Oct. '37 1 Accipiter skinned, shot La Roche area, said to be common there. Has winged parasites put in spirit.

2 Nov. '37 1 Accipiter seen flying high over forests.





- 13 Nov. '37 Large bird possibly Accipiter or Aruiis
- 18 Nov. '37 Saw 1 Accpt. flying low over tree tops and calling.
- 2 Dec. '37 Saw and shot 1 Accpt. but lost in bush or garden margin.
- 8 Dec. '37 Accipiter is fairly common in gardens and in forest and especially coconuts or near villages.  
(Rawu aria)
- 9 Dec. '37 Saw 1 Accipiter native garden lands very shy and wary.
- 9 Dec. '37 1 Accipiter shot perched in coconut near native village stalking domestic chickens
- 10 Dec. '37 Saw 2 Accpt. native garden lands
- 11 Dec. '37 Saw 2 Accpt. native garden lands  
See page 67 Log Book Bird No. 1 field note
- 15 Dec. '37 1 Accpt. shot coastal scrubs (Tadine) perched in coconut waiting to attack domestic chickens  
N.B. Stomach contents. See same date field note of this species
- 18 Dec. '37 Accipiter is common in native cultivations, perches in oby trees left in gardens, attacking native fowls, 3 seen.

Page 77 field note error, bird is not Accipiter but Philemon, see page 83 in connection with this.

- 3 Jan. 1938 Saw 5 Accipiter on this day but not recorded in log.  
Numbers of birds were seen from this date onwards but seldom record in log.
- 19 Jan. '38 1 Accipiter shot, has flying ticks.  
6 specimens taken 2 ♂ ad. 4 ♀ ad. mostly in poor condition. SK in Nos. 18, 119, 126, 131A, 139, 139A.  
Estimated population of island 3-500 birds.
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### 3. Hypotaenidia (phil. swind.)

Seems fairly common all over the island and especially so about garden lands and the grassland margins. Favours secondary growths in old 2nd year gardens when grass and shrubs like paddies lucerne, (*Sida retusa* and *Srkombofolurm*) are present amongst bananas and sugar cane. Often runs across roads or in front of autos or horses. Is easily caught by dogs. Apparently has a strong scent. Will fly when pressed but I believe this bird has an eclipse moult in the wings at certain seasons.

Breeding season seems long drawn out but in latter half of year and early month or 2 of year. Young in all stages of growth from very young to adult caught in Nasaline-Debone area in early and middle Jan. 1938.

Nest as elsewhere lays up to 6 and sometimes a few more eggs. May breed twice in a season.

\* Of 3 adults caught on nestd 3 were ♂ (not skinned) steal domestic fowls' eggs and other birds' eggs also and even their own species. Will attack domestic fowls and ducks, kill chickens and drive away adults from food or nesting areas. Fluff up feathers and give a churning note when they fight. Drive each other away from nesting sites. Are birds of territory and very pugnacious. Often call at any sudden noise, a tin banged or a gun shot.

#### Answer to Mayr's Notes

Habitat, secondary growth? Swamps and native gardens.

Yes, definitely secondary growth especially old garden sites. Will fly and climb considerable heights after food

\*Do ♀ lay and have ♂ to hatch as in certain quails?



such as paw paws and ripe bananas. They are considerable fruit and seed eaters.

There are no swamps on Mare and elsewhere I have found water has little influence on the distribution of this species.

Day to Day Notes

A few in log principally in Rawa and Nasaline and Bone (or 'Dubone) areas.

5 specimens taken

Skin Nos. 128-131, 133.

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4. Porzana (cinerea tanmensis)

Though no specimens of this were taken by me it is undoubtedly present though not common. Inhabits principally gardens and grass lands where dense clumps of grass are.

Natives have a name for it.

A local white once had one in captivity.

One specimen seen in flight by me and I crossing a road. (White eyestripe is conspicuous.)

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5. Porzana (tabuensis)

Is also present but no common except just north of Abeda and in the southern margins of the grasslands and the same grassland near Laroche in the north.

Shortly before my arrival on Mare natives brought one to Rordorf and his description, black, reddish black, bright red eye and pale red legs and very small, leaves no doubt as to what it was. I saw none during my stay.

Natives have a name for it but admit it is rare and they seldom catch it.

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All 3 species of rails are found frequenting the same patches of gardens, grass clumps or shrubby scrub. But outnumbers the others greatly possibly 50 to 1 of Punerea and 100 to 1 P. tabuensis and even greater figures are quite likely.

#### 6. Porphyrio (albus caled)

Is not very common on Mare in spite of natives saying the contrary as it does nest to no damage in native gardens which it inhabits almost exclusively and the intervening small patches of scrub, also natives could not produce a single specimen when given guns even in areas which they claimed they were very common in. In Nasaline area where natives say it is commonest we only heard and saw a few and took 3 days of intensive work to collect 1 pair. They call mostly at night. Feed principally on large plantain, bananas but attack yams and taru and sugar cane and other native products.

I believe they flock together at certain seasons of the year and form fairly numerous bands which gives the impression of its being common as it is then they do considerable damage in small areas. Corn suffers somewhat at such times. It is possible others appear from other localities such as New Caledonia and Lifu but this is unlikely. I think it is more likely they are local birds and in bands go on considerable kicks through the island at non breeding seasons. I found cases of gardens being attacked in Rawa (N centre area) and considerable damage done, especially in one man's garden. But this man on going to Naselane area (S centre) got food as no damage was being done there.





(This instance was before I arrived on Mare Is. in the non-breeding season.

Generally speaking they are found in pairs or 2 small family groups and live in a garden a few days or weeks according to how much they are disturbed (especially by dogs) then move on to another garden. Natives do not complain about the little damage they do.

Nesting season (and earlier) August till December and even January. Nest has few leaves of blady grass in dense clump grass or forms sometimes at fot of bananas or under vines growing over low shrubs in second and 3rd year gardens or under a fallen log if vegetation grows close to it.

Eggs up to 1 dozen, generally 6 to 8, usual pale brown and blotchy.

#### Answers to Mayr's Notes

Habitat Woodland? Secondary growth? swamps

On Mare island Woodland no except where such woodland comes in a small patch between gardens and at such times as they may be on trek and pass through woodlands. In the heat of the day they generally retire to woodland on the garden margins but often camp in a shady clump in the garden if such is available. Elsewhere (in the N.H.) I have seen them inhabiting woodlands far from gardens or swamps or water (on Santo and Malehula). Secondary growth definitely yes as these are generally gardening areas. On shore they inhabit such areas especially old garden sites. Where a few bananas or taru are present after 3 and 4 years as in these places they are seldom disturbed.

This bird has an eclipse moult and it lasts a considerable time and it necessarily seeks seculsion, especially from dogs, at such times.



DAILY NOTES

Some notes on this species appear from day to day especially in Rawa area notes where I attempted to collect it and failed but these are mostly only mentions, all of interest are the following.

Rawa notes. 8-11 December 1937

Is said to be present but none seen and is not very common. Eats a good deal of corn and native garden products. Is found only in and about native gardens.

- 6 Jan. '38 One Porph. heard at sunset in garden lands.
- 12 Jan. '38 After P. in garden land, heard 1 call.
- 13 Jan. '38 After P. in garden lands. 2 seen and 1 shot after dark but no found. Mate came close and called much.
- 14 Jan. '38 Before daylight in morning no P. seen or heard calling. During day P. silent and camped, begin moving about 5 PM. During day scoured native garden land and saw none. Evening hid near gardens and 2 groups of 2 each were seen far apart (6 gardens covered by watches and guns) and 1 of each party were shot and though in the instance where I got one mate came close and called a great deal, he gave me no chance to shoot him as he would not come further than 10 ft. inside (in forest) the forest margins. Unfortunately the native who shot the other was so excited at this effort after our long chase that instead of waiting he rushed back to camp.

During my last weeks on Mare boys were constantly out after P. but no more were gotten.





N.B. Natives say the small island of Doudoune NW of Mare has many Porphyrio on it. This may be so as they would like such a quiet place and be seldom disturbed there, but the food question has me a bit puzzled.

It was a great pity I was unable to get to these islands as it would have been interesting and if P. is as common as said a fine series would have resulted.

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#### 7. Ptilinopus (greyi)

Is fairly common throughout the island. Feeds much in banyans. Appears identical and is identical in habits to elsewhere.

Nest usual, eggs white, generally 1, sometimes 2 eggs placed in low tree or shrub of secondary growth in forest or scrub lands or garden lands.

Is not as common on Mare as in the N.H. Mostly in secondary growth in garden lands, 20 ft. scrubs, banyan trees and tall forest. Banyans a favorite place, also old gardens sharing camps in shady forest during day.

Suffers to some extent from human persecution. Is considered a delicacy by French and native.

Generally has a peculiar pissy odour and often has winged parasites. 1 specimen taken SK No. 54.

#### Mayr's Questions

Habitat, mangroves? Woodland.

No mangroves on Mare Is. but elsewhere it may be found in such localities.

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#### 8. Columba (vit. hypoen)

Once said to be very very plentiful on Mare and is still very numerous in certain areas and rare in others. Generally





speaking it is common on Mare except in Tadine area where it is persecuted by whites and natives for eating. Suffers to a small extent from live bird fanciers in Noumea, suffers much from the introduced crow which eats its eggs and young. Inhabits garden lands (where it is very common) banyan trees and tall forest where it roosts and camps during the heat of the day and also where it nests. Also inhabits grass lands to a small degree. Called even by natives the French name of "Collier-blanc." Usual nest, 1 egg and very very rarely 2. Nesting season Sept - January and February.

Numerous daily notes throughout the log of little interest.

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#### 9. Chalcophaps (indica sandiv)

Not very common anywhere on Mare. In some areas is commonest in tall forest and in some areas in garden lands and on roads. Probably follows seasonal foods. Is nowhere common and compared to New Hebrides it is very scarce. Probably suffers to some extent for Corvus. Nest as in New Hebrides, in secondary trees and shrubs of forests and in garden lands. Usual scanty platform nest, eggs 2. Breeds mostly in September - October but odd nests are found from July, August to January, February.

Appears identical with New Hebrides.

Odd scattered notes in log book.

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#### 10. Cacomantis (pyrrh.2)

Is generally common all over the island. Calls much at night, according to the moon a good deal. Definitely parasites



Lelage and probably the following, Rhipidura, Myagra, Zosterops? Seems much too common on the island for the number of birds it has to parasite as though Lelage is common, neither Myagra nor Rhipidura are in sufficient numbers to warrant the number of Cacomantis. On Tanna all 3 species are very common, yet compared to Mare apparently the only feasible parent which could account for the numbers of Cacomantis. Probably both species of Zost. are parasited.

#### Mayr's Questions

Parasites which species?

Lelage proved, Rhipidura and Myagra supposed and possibly 2 Zosterops.

Numerous notes throughout log, most record of night calling.

Frequents all types of country, principally lower forest, open scrubs, garden and grass lands. Perches in dry trees and on dry branches in green trees and calls much.

Is shy and wary.

Breeds according to parasitic species probably throughout the year.

#### 11. Chalcities (lucidus layordi)

Is common throughout the island but especially so in lower open types of scrubs (hardwoods, accasia, ti tree, etc.) where Gerygone is most common and about garden lands. ♂ appear to considerably outnumber ♀. Even so they are so numerous that the percentage of parasites is very great and their numbers must be a considerable menace to the status of Gerygone in its present reduced numbers. ♀ do not call as much as ♂. A ♀ will approach the vicinity of a Gerygone nest and often hide close to the ground, remaining motionless. I never fully





proved it as the bird is easily scared by man approach but I believe the ♀ makes a low sound SSSS like a young Gerygone which excites the parents and the ♀ Gerygone parent leaving the nest reveals where it is. Also I once saw Chalcities flying slowly along a road, a Gerygone crossed the road ahead of it (carrying nesting material) and the Chalcities immediately quickened and turned sharp into the bush following the Gerygone. ♀ are less marked under than ♂ and generally perch near the ground and not on conspicuous bare tree tops etc. to call. A silent Chalcities flying low in amongst the lower bushes within a few feet off the ground is 9 times out of 10 a ♀. I know of no other species they parasite but it is possible occasional others are parasited as they are on N.H. either by these or an allied race of Chalcities. They occasionally congregate in numbers and carry on much calling etc. and are generally excited. This may be at a mating time but personally I doubt they pair off and believe ♀ mate with different ♂ just as fertility and opportunity are required or available. They sometimes do slight damage to the spouts of nests but this is rare, a visited nest being generally quite natural and undisturbed. They lay while Gerygone is laying from Oct. - Dec.

Egg 1 dark, blacish brown, can be washed off easily.

See Field Log. Numerous scanty entries throughout Log, and especially Page 6 skin No. X. Page 26 Chalcities congregating and in song; evidently mating 7/11/37. Page 35. Page 79 Gerygone eggs No. 4. extensive notes.

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Extra. Though I collected no proof of New Zealand bird (i.e. skins) passing through I am confident they do so. When on the





way to Noumea from the New Heb. the steamer stopped 1 day on Mare, or from 12 AM till 8 PM and I was ashore. I saw a distinctly larger browneye cuckoo than layardi and was close to it and saw it for some time, in fact was able to draw fellow passengers' attention to it and hold a short discussion before it flew. Unfortunately none of the passengers were ornithologists. Also that day the bush was simply ringing with Chalcities' calls. That was on October the 1st. Also Mr. Rordorf a resident on Mare for over 20 years and a keen amateur ornithologist and live bird fancier who is most observant, volunteered the following information and with no guidance from me. "Sometimes great numbers of browneye cuckoos appear, I think 2 kinds, one larger than the other. One we always have here but in September, October and in February, March and April the other one appears but goes away again. I think there may be 3 kinds as one has fewer bars underneath but is smaller (♀ or few). The big one looks browner bronze on the back and is a plumper, larger bird." I gave him absolutely no and he volunteered this information himself. I concentrated on Chalcities during the last of Oct. when I first arrived on Mare but did not get anything but layardi. Natives also speak of an enormous increase of Chalcities at times but give the times as August, September and April and May, but times are of little account to them in such matters and they stated it by "time for sharing and burning gardens" but this operation goes from July to November and later as time for new yams, April and May. Mr. Rordorf for some years has unsuccessfully tried to rear young cuckoos (layardi) and has had thus an especial interest in this species. He claims the call note is stronger and clearer, not such a



rudy whistle as layardi and during October I heard a couple of calls which might have answer this description but no such calls later. He say the place is swarming with them for about 5 to 14 days depending on weather and numbers may be found at any time during those months but rapidly thinning out towards the beginning and end of the seasons. Though on questioning him he said that the great number appear generally considerably near the beginning of the 2 months than the end but were irregular occasionally the number appearing late in October. Some natives forecast weather by the appearance of the birds but there seems to be different ideas held by different natives as to the meanings. The natives make no difference in these birds but give them all one name.

Against this is the fact that unless the migrant is a distinctly bigger bird the average casual observer would not be able to tell the difference in the field and as I record times of congregations taking place amongst these birds (layardi) the greater numbers noted by Rordorf may be an extra gathering for mating, though in that case the March, April congregating would be hard to account for. If possible I hope to settle the matter by being present on Lifu in Sept., October. To date on Uvea only 1 Chalcities has been seen and that was layardi I feel sure.

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## 12. Tyto (alba lulu)

Is present and common on Mare Is. Nests much in caves and hollow limbs. It also roosts much in caves. Suffers from some disease which causes many to appear and be found dead, very thin and emaciated and at times it seems rare. I believe





this bird becomes fat and lean according to the moon and if stormy unsuitable weather comes at the full moon they suffer. On Mare they hunt much over the grasslands and garden lands but little in forest areas though they roost there during the day but prefer caves and holes in cliff faces. Nesting season is in the latter part of the year probably about Sept. or Oct. when they are most active at hunting and even hunt in the day to a small extent. Feed on lizards, insects, rats, mice, small birds, etc. and will eat offal.

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### 13. Collocalia esculenta uropygialis

Common all over island, hawks below tree tops in forest and amongst bushes in low open scrubs but seldom goes into very open areas or over the tree tops to any great extent, except in dull weather when they visit these habitats to a certain degree. Is amongst the commonest birds on Mare though is not nearly as common as in New Heb. Nest in caves near entrance in shallow cavities and large rocks, amongst banyan tree roots in large hollows of tree limbs. Almost anywhere a foot or so of overhang is found as long as water does not drain there is a colonial nester, sometimes great colonies where there is room, but generally 4 to 20 nests in a colony. Nests Sept. - Dec. and odd ones outside those months. October, November being the principal months. 1 egg white.

#### Mayr's Questions

Nest, "under branches big trees?" Yes, if rain does not drain around the limb to the nest site. In large banyan limbs often pockets occur thus and in such cavities they will nest.

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14. Collocalia spodiopygia leucopygia

This is one of the commonest birds on Mare and is considerably commoner than C. esulenta urogi. It favours more open types of scrub, actual large open patches, grasslands, large gardens and over the tops of forest trees. Hawks to great heights. Does not mingle with C. urog. to a great extent. Often gathers in large numbers high in air hawking amongst large hatches of insects before and after rain. It then calls much in an excited thin chatter. Nests in colonies well inside dark caves. Egg 1. Nests later Sept, November and early December and possibly a few earlier.

See extensive notes on page 67, No. 12 and P. 77 and 78, log book No. 1.

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Extra

Rordorf says a few at La Roche speak of a large black Collocalia nesting in the church there but I believe this to be Hirundo. I have no doubt Collocalia vanihoroensis visits Mare at odd times when not breeding but believe it does not nest on the island. I saw not a single one during my stay in spite of having a sharp lookout for it. As the time of my stay on Mare probably corresponds with its nesting season, it was probably absent during my time on the island. The season when it was supposed to nest in the church I visited it but found no nests and only saw Hirundo about though the pere himself seemed to recognize Hirundo and said it was not that bird. Frankly I was surprised at its absence as suitable habitat is present in big areas.

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15. Halcyon (chloris cancacorum)

Very common all over the island except in dense tall forest where it is not quite so common. On grasslands, in scrub



lands in gardens and low forest it is a very common bird. One of the commonest on island. Is not guiltless as regards other birds' nest and young and will attack domestic poultry but its depredations are very small. Calls much and may be heard at all times. Nests in hollow limbs of trees and occasionally in a hole in a cliff. Eggs 4 pure white. Long breeding seas, July to February, possibly raises 2 broods a year. October, November, December main breeding months.

Mayr's Questions

Habitat. Near beach? forest, native gardens?

In all and everywhere. Fishes on reef at low tide, along beaches, in gardens, in scrub lands and forest. Numerous brief daily notes in log of no importance.

16. Lalage (lekcopygia simillina)

Common all over island except in tall forest where though fairly common it is not as common as in lower forest and open hardwood scrubs where it reaches its greatest numbers. Is common on grasslands and even nests there in isolated trees. Perches much on the upper side of the leaf canopy and on prominent twigs, etc. Feeds from tree tops to ground level and is often seen hunting in low shrubs within a foot or two of ground and on grassland actually feeds on the ground. Feeds off fruit and berries and caterpillars and insects. Nests over a long season from July to January without any seeming peak. Young have buffy marks on breast. ♂ ad. white only in wing. ♀ some buff in wing. Nest cobweby and fibres on limb or flat fork from 10 ft. to 40 ft. Eggs 2, green and brown blotches. Calls much. Appears absolutely identical





with southern N.H. Has a habit of a pair meeting in mid air and fighting, calling much and becoming entangled, fall from great heights and hit the ground with a whack, then each flies away in different directions. Am not sure whether this is a mating habit or ♂ fighting as the sexes are very alike. It happens later in the season, January onward and I am inclined to think it is adults driving away young but if so the spirited contest put up by both sides is hard to account for and the flying off in different direction instead of continuing the battle or at least one apparent victor is hard to account for if it is males. Am rather inclined to think it is a sort of game as a pair will do it many times a day and on successive days.

Mayr's Questions

Habitat. forest? Yes and elsewhere more so on Mare.

Food caterpillars, small fruit? Yes, banyan figs, etc. small red and yellow especially. In fact banyans are a favourite haunt of this species.

See notes on nest page 90. Log Book No. 1.

Few other unimportant notes in log.

17. Turdus (poliocephalus marunsis)

Though I searched very thoroughly for this species I neither saw nor heard one. Many early notes in the log were proved to be other than Turdus. There are doubtless a few left on the island but I doubt there are 100 left. The younger generation of natives don't even know the bird. The few that remain on in an unnatural habitat of low scrubs bordering the open grassland where their natural food, snails, are scarce whereas in its natural habitat, forest lands, they are very





common. We walked miles and investigated every slightest rumour of their presence and disproved them all and never once heard or saw a single specimen though several times we heard what we thought to be them. Also we haunted forests and other places at crack of dawn and dusk which are Turdus times of calling and heard no calls, even fired guns to alarm them and never heard a whisper of them. Several species eat and tap mails principally Aplonis and Corvus which are easily mistaken for Turdus busy on mails. Also hermit crabs on rocks may mislead one. Talk with local residents and natives definitely point to its rapid decrease in the last 20 years to the point of extinction. Some natives knew where there were plenty and all the rest of it but in spite of attempts and a large inducement they all failed to produce any. More truthful serious natives frankly admitted the bird was now very very rare and many old chaps admitted not having seen it for years. In the southern forest area where all the island admitted it was once most common, 2 reliable natives told me that one had seen 1 only in the last 5 years and the other 5 in the last 5 years, 4 only 1 in the last 3 of those years. A native who was with Sares in 1912 or thereabouts said that when he passed through that area with Sarasin a Turdus or a pair flew up every 50 or 100 yds. In those days they used to snare them and eat them but he went to the war and on his return noticed the decrease in numbers and natives had even then almost given up snaring as not worth while. They never snared any great number at any time as the labour of doing so was too great and the few which they did on Mare had no appreciable difference on numbers. We beat backwards and forwards through this area and stalked so well that we could have shot numbers of wild



pigs from close range, and these pigs are very from much hunting by natives as they are not very numerous on Mare. Had there been any number of Turdus at all we would have sighted or heard one. I had as many as 40 boys in a single day looking for it in this area and none reported seeing or hearing any. I doubt there is a single Turdus left in this forest area where there were once thousands. The few that are left are principally in the La Roche area. I think with an odd few up in the NW low scrub plateau where Corvus is not common. One native put forward a theory of rats reducing them but this I don't think is the case. Personally I believe Corvus is responsible for 80% of its decrease and possibly more. Fire may be responsible for 5%. Upset to mail foods 5% but probably less as there is ample food still for a large population. 5% or less for native attacks and that nil latterly. Alienation of lands does not affect Turdus. Natural causes 5%. Probably better figures would be Corvus 94%, natural enemies 5% (Accipiter), other causes 1%. Being a large conspicuous forest nester this species has suffered from Corvus at its most critical time.

Natives frankly state that they noticed the decrease in Turdus with the increase of Corvus in all areas.

See further notes in Mare summary of birds in this species.

Used to nest in Oct., Nov., Dec., and Jan. Laid 2 to 4 eggs. Nest mud and fibres on a bare low secondary shrub or limb of a small tree, generally conspicuous.

See notes in log on Rawa area. Most other notes are later proved erroneous as are much of the Rawa notes.





18. Rhipidura (spilodera verreauxi)

Is present on Mare but is nowhere common and is entirely absent from many areas. This bird is the only Rhipidura on Mare and its status is most puzzling. It may be a comparatively recent arrival on the island but natives do not say so and claim it was once common in the forests, yet one native of the younger generation drew my attention to it as a bird he had not seen on Mare Is. This was in the Tadine area. Possibly it was once a forest dweller but has been wiped out by Corvus in those areas and is now slowly increasing in another habitat, the lower more open scrubs and garden lands where Corvus is not so common. At the present time its status is as follows. In deep forest almost entirely absent though a rare one may be met, never more than one in the forest, where forest margins of grassland, an odd one or two may be found. In clumps of forest in the centre of grassland odd parties may be found. In northern forest an odd few are found at wide intervals but generally bordering or close to low open hardwood scrubs and garden lands close to villages, in open grassland it is present but at wide intervals and only on margins mostly. In ti tree of the plains and coastal scrubs it is fairly common and probably reaches its greatest numbers here, though in coastal scrubs it is most irregular in distribution, but generally to be found in the more open types and rare in dense tangled types though occasionally, an odd patch of tangled scrub will have numbers in it.

It feeds mostly in the secondary growth if it is present in any type of forest from the ground to 15 ft. In the lower open scrubs it feeds mostly within 6 ft. of the ground but occasionally finishing here. Doubtless the fires





affect this species food to a considerable extent. As it does to a certain degree inhabit gardens this probably does not have a great effect except that the alienation of areas cut it short of habitat as it does favour secondary growth of 3 and 4 years old in old garden sites.

Anywhere it is more common it is found in small family parties of 3 to 5. Is easily called gavinilos, may easily be distinguished by brown instead of white patches in the wing.

Nests from August (possibly a few earlier) to December but mostly in September. Nest usual Rhipidura, eggs, 2 or 3 rarely 4, in secondary growth in forest, or low trees and shrubs in more open country, from 4 to 10 ft., mostly about 4 - 6 ft. Is a bird of territory definitely

Is rather a striking bird as it carries itself boldly.

#### 19. Myiagra (caledonica melanora)

This species is most peculiar in the variation within it. Many have black blotches in the tan of the throat and this in ♀ ad. I got one ♂ adult with 2 beautiful white ear coverts. I think this species will probably prove different to melonura, but a type will be hard to arrive at because of the range of variation. ♂ vastly outnumber ♀. In forest areas it occurs but is not as common as it should be, in lower open types of hardwood scrub it is very plentiful. It might be called one of the commonest birds on Mare but even so is not as common as it should be. Is common in open grassland and clumps of forest in such areas and along the margins. Is very common in garden lands and about native villages. Possibly the scarcity of ♀ is due to them suffering more at nesting as they evidently prefer a forest or forest margins



for nesting where they nest in the lower secondary trees and shrubs near the ground. Though I was there in the breeding season juv. ♂ seemed as scarce as ♀ or scarcer, probably a proof that it is suffering from Corvus in its nesting season. In collecting I concentrated on ♀ plumages as in this species it is on this stage the variations mostly occur and my collecting is no index of the relative numbers of the sexes which is exactly contrary. Probably 10 or 15 ♂ to 1 ♀.

It is easily lured by mocking or making calls of young. Is generally found singularly or a pair, occasionally pairs of ♂ will be found together. Is a bird of territory and fights can be started by luring one from across a garden into another territory.

Probably suffers a little in its food from fires and garden activities but is doubtless adaptable and overcomes this.

Nests in many places from within a few feet off the ground in forests and scrubs to 40 ft. in village areas where only tall trees are left, and in isolated trees in grasslands. Generally speaking, prefers a low bush or small tree and nests within 6 - 10 ft. off the ground. Nest fibres and cobwebs. Eggs up to 3 and rarely 4, generally 2. Nesting season from October, (a few earlier possibly) to January. Most in November and December.

Numerous notes in log showing preponderance of ♂ over ♀ plumages. Notes on nests and eggs, etc.

20. Gerygone (flavolateralis 2)

(White unders lemon flanks)

Treated as 2 species though probably only one species.





This apparently larger form is found at wide intervals in forest land, more numerous in lower types of forest, about gardens in forest lands, along the margins of forest and grasslands and even across the open grassland where it feeds in the low forest stunted shrubs etc, and in forest clumps in grasslands. It has a pretty little weak warble (but more robust call than the variant). Is a busy little feeder in the tree tops and fairly low along the ground and even amongst the coral forms on the ground. Suffers much from Corvus and Chalcities. Is very friendly and not at all shy and very easily lured. Is often in company of Zosterops flav. in gardens but this is probably accidental as it feeds on other things while Zost. is feeding on paw paws, etc. Feeds on a type of scale common on barley leaves, on small insects and insect eggs hidden under bark of trees, etc.

Is one of the commonest birds on the island but far far fewer than it should be and natives remark on its decrease in many areas.

This species will go into coffee plantations sometimes.

Nests usual Gerygone nest, placed almost always in a dense foilidged dark leaved tree. Oranges and lemons and mandarines being favoured sites. At various heights up to 20 ft. but mostly under 8 ft. and many within 2 ft. off the ground. Eggs up to 4. Breeding season, a few in Sept., Oct., Nov., Dec. and few in Jan.

Generally in small parties of 2, 3, 4 and up to 6.

Variant. This bird may be a 1st year non breeder plumage like Myagra and consequently generally single.

This type with a light lemon wash all over unders and always a lemon eyebrow instead of white as in other, is more





confined to the ti tree scrubs and lower open types of scrub. It occasionally is found on forest margins but never far from the accasia hardwood, and ti tree types of scrub. Is more silent than the other and a busier feeder spending most of its time close to the ground. Does not venture into gardens but is found in the secondary growth in 3 or 4 year garden lands. Has a thinner weaker warble than the other but seldom utters it, generally making a single faint "chip""chip" while feeding. Is almost always alone but sometimes in pairs. Where grass has grown up amongst shrubs it will search up and down the grass stalks for its food which is similar to the other.

Nest eggs and breeding unknow but probably same as the other and indistinguishable.

I at first thought this was a forest type and was rarer than the other but found it later in the extensive ti tree of La Roche where it was most common and the sole type in that scrub.

Extra. Though seemingly so different I cannot understand the 2 types being separate sub species in one area and believe the secret is probably that they do not get to a full plumage till late in life yet specimens taken by me seem to disprove this as I found juveniles unmistakable of each type especially the first and found adults of the second in which there was absolutely no doubt that the skull was completely ossified.

## 21. Artamus (leucorhynchus melaleucus)

Very common on the grassland plains and in coconuts along the coast. One of the commonest birds on Mare. Seems the same as elsewhere in all ways. Nests the usual in many places, coconuts are favoured and broken off stumps of neck, etc. Nest. Sept., Oct., Nov., Dec., and Jan.

Attacks hawks, Corvus, domestic fowls etc. near nests.



## 22. Aplonis (striata atronitens)

Very common all over island. Another of the commonest birds on Mare. Found in every type of country but none in forest land though common along the margins of such. Generally in small flock of 6 or 8 or in single pairs. Probably flocks are family parties. Occasionally gathers in large flocks for a few hours then disperses. Feeds much in low open types of scrub and ti tree lands. Often perches on the bare dead branches of dead trees of garden lands. Is a most valuable bird in gardens where it feeds much, being a fruit and insect eater. Has a call very like Turdus 'S-S-S-S' and other calls. Has a low chatter something like Charmypinojus or Also a high thin shrill note of alarm or inquiry.

Nests in hollow limbs rarely in a hole in a cliff. Eggs 4, possibly more, blue (?) or very light blue (?) (hearsay.)

Breeds over long period in scattered numbers, odd ones may raise 2 families a year, but the main breeding month when great numbers nest is October. Odd one from July to Feb. may be found but are not common but not unusual.

## 23. Philemon lessonia

Fairly common except in deep forest but a number are found there also; it and Halcyon probably being the commonest in those areas after Corvus. Is much more common in the more open types of scrubs where coconuts are present, especially along the coast. Does not go into the lower types of scrub to any great extent but favours the intermediate forest more. Does a great deal of good about coconuts and attacks the large





locust which eats the coconut palm leaves. Is very noisy and calls much morning and evening and before rain. Is pugnacious. Has many calls and is a bird of territory and resents intrusion and gives a peculiar call when pursuing other birds and others of its own species. Swoops at all kinds and will drive them away especially when observer makes distress calls of young, is easily lured and will come very close to the caller. Generally in pairs or small flocks of 4, rarely more up to 6. I occasionally alone usually in forests.

Nest is unknown to observer but hearsay it is a fairly bulky platform and cup nest, breeds Oct., Nov., Dec.

Appears similar to elsewhere in Caledonia.

#### 24. Lichmera (incana 2)

This is the commonest bird on Mare where coconuts are and if coconuts were more common on Mare would be as common as Zosterops. Is seldom found more than a 100 yds. from coconut trees and these trees control its distribution. It is very very common anywhere where coconuts are and rare elsewhere. It seems to have driven Myzomela into the forest almost entirely. It is very pugnacious and chases Zosterops and will attack Artamus and Aplonis but generally gives the former a fairly wide berth. Where lantana is amongst or near coconuts through lantana gant and even low bushes and shrubs but the latter less frequently. Spends 90% of its time in the tops of coconuts where it must do untold good. Also where flowering trees especialy rose apples are in flower in or near coconuts it gathers in numbers. Is generally single though a pair or more may be in a palm top together they hunt separately, one going one way and one the other when they leave





the tree. ♀ are found more away from coconuts than ♂ and are often in lantana gant. I believe ♀ probably spend 50% of their time away from the palm tops but they are very few in number probably not more than 1 in 15 to 20 are ♀. My collecting is no indication as knowing ♀ habits I concentrated on them and shot birds mostly away from coconuts. Even so I only got 3 out of 9 ♀ and one of those was juvenile.

Nests, fibres and hair etc. decorated with lichen and wool etc. placed in a fork up to 25 ft. and possibly more (generally 10-25 ft.) in a thick foliated generally dark leaved tree, (orange, etc.) in or about coconuts. It may nest in lantana gant but this is unproven. Will often nest in the outer layers of leaves of forest trees where they adjoin coconut groves and in trees close to coconuts where forest has grown up and checked the nuts to some extent but invariably close to coconuts. Eggs 2, white with few reddish spots. Long breeding seas from July to January but mostly from end of October to beginning of December inclusive. Seem to have a tendency to be almost group nester or rather in one large area, many birds, few nests, and in others similar, nest may be more numerous. Such as Rawa area, few, Nasalane area a number were seen. This may be something to do with the biology of the excess of ♂ over ♀ as actually in both areas ♀ are just as numerous.

E.M. A series from each island of this bird will be taken (Uvea look large and different) but Noumea Museum in such a case would not want specimens from each island even whether the same or different unless there were ample of the variant.

#### Mayr's questions

Habitat forest? No decidedly no. Coconuts almost exclusively.



Food. Insects and nectar? Yes. Nectar is seldom found or rather visible in the stomach as on shooting this bird invariably vomits any honey in the stomach (so do all honey eaters). This honey may be tasted on the feathers of a bead lodges on them but more often it falls on surrounding leaves or the ground. This vomiting is almost an instinctive reflex action as once shooting against the sun I saw the bird forceably eject a stream of honey the second it was hit. They do the same with water if shot while drinking. The honey may be tasted in the stomach even though not visible. Insects such as ants drawn to the honey are also eaten with the honey and other insects, small flies etc. are eaten. I have seen this in captive specimens and watched them in the wide state snapping the insects around coconut flowers, in the air and on the flowers, almost always these are small minute insects but occasionally larger ones may be eaten and I once saw Lichmera chase and catch a large insect in the air between coconut palms. Probably 60% of its food is insects and 40% nectar as this seems to be about the ratio at which they live best in captivity.

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25. Myzomela (cardinalis lifuensis)

Not particularly common in fact rare and almost confined to forests. I saw not 1 single ♀ in the whole island and on looking through the log find not more than about 20 on the whole island. At first I used to go by calls but found I was wrong and the calls I heard were Gerygone. I set this figure at 20 but it was probably less as actual sight records I cannot recall more than 8 and some of these were immatures. I saw one in captivity and Mr. Rordorf said it was once common but was now scarce. Is a bird of territory as by returning to where





it was soon I obtained a specimen and in another case saw it but failed to shoot it. Immatures wander more. Is timid and shy and not easily labled but is pugnacious.

Nests in trees in forest and margins generally near flowering tree areas or in them. Small cup nest of fibres. Eggs I did not see. Season is from September, October to December and possibly a few later.

I never saw more than one at a time anywhere on the island.

Mayr's Questions.

Why is it absent on Mare and Uvea? It is absent on neither. Is rare on Mare principally because of Corvus. I believe it is very plentiful on Uvea and appears the same as on Mare. I hope to get a fine series here on Uvea.

See also notes under bird summary.

26. Zosterops (flav? minota)

This is far and away the commonest bird on Mare and is increasing rapidly in garden lands and the more open types of country, but is rare in the deeper forests and semi forests where it was once common. Great flocks of them sometimes gather but they are generally found in small parties of 4, 6, up to a dozen. Feed on fruit and insects and do a tremendous amount of good in garden lands. Have a pretty and strong song and a mournful note, "Tahree" and a low feeding chirp. Nest in low shrubs, in trees and almost anywhere. Nest usual hanging cup of fibres, eggs pale bluish white up to 4 in number. Nests almost throughout the year but very rarely during Feb., March, April though odd pairs nest even then. It is worth recording that while this species is occupying a nest it is very hard to find but once they have it it becomes conspicuous and easily seen.





If this is minota it is badly named as it is a large bird and hard to distinguish from lateralis on Mare.

Almost anywhere on Mare except in forests this busy and very numerous bird is to be found and in gardens about ripe paw paws is always common. Hunts much in lantana gant and in the open types of scrubs but here merges more into lateralis and across the open grasslands it is busy and seldom still.

### 27. Zosterops (lateralis nigrescens)

Not a very common species on Mare and for long I thought it was absent and unfortunately by the time I really got after it it was in bad moult. The natives do not think it a different bird from flav. and give it the same name. It is very easily confused with flav. even in its calls which can only be separated by practice as its note is a shade thinner and higher. Is almost entirely absent in forest lands though I got it once in lower type forest lands but close to low hardwood scrubs and garden lands. It is fairly common about gardens when it feeds in company with flav. on ripe paw paws. In fact in gardens and open types of country it is often in company with flav. and 2 lateralis will often be found feeding with half a dozen or more flav. It is commonest in the grassland plains and margins and in lantana gant. It feeds on lantana berries and insects on the limbs and foliage of lantana. It is increasing in numbers but probably does not number more than 1 to 30 or 40 of flavifrons throughout the whole island though in grasslands it outnumbered flavifrons.

Nest in low bushes and shrubs very close to the ground generally within 4 ft. but occasionally higher. Nest usual small hanging cup, neater and more compact and denser than flav. Eggs 4, pale blue.



Nesting season October to December (mostly October, November). This species is never in groups of more than half a dozen and does not flock. A pair, which is the commonest number seen, may be with large flocks of flav. but never more than half a dozen of its own species. On the grassland 2 groups of half a dozen may be seen flying into the same small clump of shrubs (fire stunted) but invariably soon separated and fly off in different directions.

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#### 28. Erythrura (trichroa cyoneifrons)

Very common throughout all the island except in deep forest areas. Especially common near where it nests in holes in cliffs, in collapsed caves, in stone faces etc. Is not as common in Tadine area as it should be. This is probably due to live bird fanciers which although there is a law protecting it collect considerable numbers and export the few which remain alive to Noumean bird fanciers and as there is a big craze in Noumea at present the drain on bird life is considerable but not great enough to seriously effect the status of the species. As an example of the value of this law during my stay on Mare the local resident gendarme who is supposed to enforce the laws and maintain law and order attempted to rear some young of this species which natives brought him. All died within a day or two. I do not think the gendarme even knew there was a law about this species (Mare natives are poor and pay fair taxes and will do anything to make a little money). Unfortunately the natives take far more nestlings than can be handled and then when taken to the trader and not bought are thrown away and perish. Also the mortality in the numbers taken for rearing are very heavy and the only person who even





raises 10% is Mr. Rordorf. He has better success with adult birds, numbers of which he traps.

This species is common about gardens and the ti tree scrubs especially in the La Roche area where it nests to a great degree in cliff faces, collapsed caves etc. In areas which have been used as gardens and allowed to grow up in bush again a small bush or shrub which grows to 8, 10 and 12 ft. which has long tassels on it with small seeds all the way down is a favourite food of this species and individuals are usually to be found in its vicinity. Grass seeds, seeds of trees etc. are also food for this species. It seldom visits the open grassland plains but where a patch of grassland is present in surrounding scrub they are generally present.

They are generally in pairs, or small flock of up to 6 and 8. Occasionally large crowds gather near nesting sites but some are always coming and going and it is not a real flocking habit. They have wonderfully keen eyesight and are hard to approach. They generally leave a sentry on the watch when feeding but small flocks of 3 or so seldom do so, but one will often fly up and take a look about at such times.

They roost at night in dark leaved trees, generally high up, the cocoa mother or Eritrine (red flowering nitrogenous tree) being a favourite place, sometimes in oranges or mandarines when Eritrine are scarce. When roosted they do not tuck their heads but sleep on one leg leaning together in a line, or a pair against each other, in a clump of leaves or some shelter.

This species suffer much in wet weather as their food is washed away or damaged and are easily lured to baits of mud





and trapped at such times, their hunger overcoming their usual caution and shyness. They rightly consider and know man as their worst enemy and take alarm quickly at their approach. Hawks may get a few but very few I think.

Nests in holes in stones, open caves, in cliff faces, amongst boulders on the ground, in collapsed caves etc. and may occasionally nest in a hollow limb but that is unproven and I think rare. In places where collapsed caves and caves and boulders are they seem to be colonial nesters in single pairs scattered about and even a number nest in forests where suitable stones are present. It always nests near or on the ground except on cliff faces and roofs of collapsed caves where a few are to be found. It will often nest in numbers on a ledge in such a place but probably more nest in the fallen boulders of the collapsed roof in cracks between stones etc. Occasionally 2 birds nest together laying in the one nest I believe.

Nest is a bulk loose humid structure of leaves and fibres, pandanus leaf being a favourite in the outer layers, then finer fibres and rootlets.

Eggs 2 - 6 sometimes more (generally 4 nestlings survive) plain white. Season, August, September, October, November, December (many) January few. See many notes in log, especially Rawa area.

29. Corvus (moneduloides physocorax)

Introduced now Established

Introduced to Mare 1914 or thereabouts.

Very common in forests where it goes in pairs and flock up to a dozen, generally 4 to 6 in number, occasionally alone.



A few are found in lower types of forest and a very few visit scrub lands. Definitely prefers forest areas.

Nest and eggs unknown, breeding season is in July and August and odd one later to as late as December

Strange to say I saw no nests of this species in spite of its commonness but its season was well over when I arrived and I only just occasioned as late as December because in that month a native brought a young one to me.

This species feeds on snails and large beetles and birds and eggs.

See also summary of Birds of Mare Island.

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### 30. Pluvialis (dom. fulv.)

#### Migrant

This bird gathers in huge flocks on the grassland plains of the interior.

Numbers in little mobs of 2 to a dozen are also to be found all around the coast on rocks etc.

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### BIRDS SEEN AND NOT COLLECTED

Tringa Brevipes Common along coast.

### 31. Circus (approx. wolfi)

This bird is very common over the grassland plains and visits the forests occasionally. I should have gotten one specimen. It seems much as elsewhere. Hunts across garden lands and grasslands but prefers the latter mostly.

Breeds on the island as elsewhere.

Probable population about 50-100 pairs.

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Extra. I saw one hawk over forest land grassland margins which appeared slightly larger than Circus and appeared to have a





wedge shaped tail. This was some distance away and not sufficiently good sight record to decide what it was and as Circus were numerous about there was probably one of them.

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32. Falco (Peregrinus ernesti)

I saw only one during my stay on Mare. But natives well know it especially in La Roche area where it nests in rock cliffs.

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33. Hirundo (tahitica subfusca)

Common in La Roche and volcanic soil area, not so common elsewhere but not rare. I cannot realize why I missed getting one but left it till too late when every effort was bent on getting Turdus and Porphyrio. It appears identical with elsewhere in habits and flight and appearances. Nests in caves, hollow tree spouts, houses etc. under ledges of cliffs. Mud nest usual eggs 2, 3, 4, white and spotted red. Season, July to January. May raise 2 broods a year.

(This bird is common on Uvea and appears the same and I will get specimens here.)

It is of interest to note that Mr. Rordorf who has been many years in New Caledonia before coming to Mare and knew the bird there once found a dead Aegotheles on Mare Is. after a cyclone or hurricane. This is the only time he has seen it on Mare. (See next page also.)





SEA BIRDS

No petrels or shearwaters or sea birds nest on Mare Island.

Phaeton Leptarus

Is a very rare visitor to Mare, generally it is stormy when any are seen.

Rubicanda is unknown there.

Fregata Minor

Is a common visitor and roosts at night on the caledonian pine trees in the south of the island. Natives used to climb and catch them but since one man fell and was killed have stopped doing so.

Eregata Ariel

Is a rare visitor and only in times of hurricanes.

Sterna Bergii

Is a fairly common visitor but never stays long on Mare as sardines and shoal fish are scarce and reefs scanty.

Sterna (sumatrana)

One record of one coming ashore in a hurricane.

Possible other Sterna visit the island rarely but I saw very few sea birds at all.

Larus (noueahollandas)

I saw 2 at different times and they only stayed a day. They very very rarely appear and never stay more than a day or so.

Waders

Tringa brivipes is the only common wader and is found all around the coast. A few Numenius appear but do not stay long. Also Arenaria appears for a day and disappears.

Mr. Rordorf gives a record of a very large white heron (egret) one being blown ashore on Mare and killed by natives. Long yellow legs and white body, bill? (spoonbill?) He said it was larger than the New Caledonia bird he knew and not a spoon bill but an egret.



LISTS OF NATIVE NAMES OF BIRDS

<u>SPECIES</u>	<u>NATIVE NAME</u>	<u>REMARKS &amp; PHONETIC SOUNDS</u>
1. Demigretta No difference for juveniles.	OIAH or OI-YAH	This is for the blue phase. They merely add GAH-DAH which is the word for white if such were to appear but they do not know it and say it never appears.
2. Accipiter	MAROOP or MAH-ROOP	The H is barely sounded in ordinary talking.
3. Hypotaenidia	DENGI-DEARE	Dengi as written. Deare as our word dear with an E ending added.
4. Porzana (cinera tanna)	DENGA	Said DEN-GA accenting the ga and especially into an R sound.
5. Porzana (tabuensis)	WAH-DEAR	Slight emphasis on the last AR.
6. Porphyrio	KET-AY	As written.
7. Ptilinopus greyi	GWA-CEE-CHONG	GWA as written. CEE as sea with sharper C sound. Chong as in ching chong china maid.
8. Columba	MA-KET-CHE	Seldom used by natives even amongst themselves. Said like "market chee".
9. Chalcophads	GWAN-I-NAR-RA	gwa long N short, I like EE nar-ra like nara of narrative.
10. Cacomantis	RU-ETH-THEBAI	As written.





-2-

<u>SPECIES</u>	<u>NATIVE NAME</u>	<u>REMARKS &amp; PHONETIC SOUNDS</u>
11. Chalcities	JAH-U	As written or JAH-00. No difference for other larger bird.
12. Tyto	MENE or MENAY	
13. Collocalia ) (egol urog) ) )	WAH-GEH-ROET	
14. Collocalia ) (spod. levg.))		
15. Halcyon	ZEY-ZEY both short	As written.
16. Lalage	JOW-WAI	JOW or almost JOE WAI as usual polynesian word for water.
17. Turdus	WAH-SAR-SAI	Accent on SAR. SAI as in say.
18. Rhipidura	WAH-NAH-JAK I	As written.
19. Myiagra	WAN-NEH-RAY-KOWAI	♂ and ♀ the same (old difference in word forgotten).
20. Gerygone (2 kinds)	WAN-NEI-MO-CHEY	
21. Artamus	KAH-TEN-AY	As written.
22. Aplonis	KOH	Short H barely sounded.
23. Philemon	GUTTI	Between AG and AK or at times an NG sound.
24. Lichmera	WA-SIS-SI	Or WAH-STS-ST.
25. Myzomela Lack of use of name possible cause of this.	GWAN-NAH-DERA(?) Doubt when question- ing natives, even old men couldn't remember.	♂ adult, possibly other names for ♀ but have been forgotten. Personally I believe this name is used now and not before.









Loyalty Islands LogUVEA Is.

Notes on Uvea Island. Thursday, 14th October 1937.

Weather. Dull over east and showery after thunderstorms previous night. Wireless reports of gales off Queensland Coast.

Time of observations. 7-9 A.M.

Type of locality and vegetation. Uvea is an atoll formation with land along all the eastern side and along half of the southern and northern sides. Soil is very scanty or absent over a base of coral rock uplifted with deep wide margins of sand. Nowhere does it reach an elevation of 50 ft. Swamps are common in hollows behind storm bands which usually form on this type of island approx. thus:

Vegetation. A lot of hardwood, Banyans and Coconuts with a type of small dense scrub or gant in between. Few trees more than 20-30 ft. in height. The low scrub runs up to 15 ft. but averages 8-12 ft. or less. There is a great deal of mistletoe, birds nest ferns and other parasites on the trees.

Birds Noted and Remarks.

Hypotaenidia. - Common in swamps and margins but shy. Local remark on its egg eating.

Porphyrio. - Common and shy. Does a lot of damage to cultivation. Locals claim it eats eggs of domestic poultry. French call it "poule sultan," sultan fowl.

Ptilinopus greyi. - Common. May have slight differences to elsewhere but doubt it.

Cacomantis. - Common and calling much. None actually seen but 3 and 4 heard calling at one time.

Collocalia. - Appears to be 3 species present (Urog. spod. vanik.); spod. appears larger and with narrower rump bar than N.H.; Urog. appears larger and brighter than N.H.

Halcyon. - Common. Light rufous tinged under (no eye stripe?); call and flight different to N.H.

Lelage. - Common. Appears identical to N.H. in call and flight.

Pachycephala. - None seen but numbers heard calling. Common but shy. Calls much softer calls, and less volume than in N.H.

Aplonis. - Very common and easily called. ♂ darker than ♀. Bill large and tending to notch on culmen. Feeds on  
 bayon figs. Nesting at present; saw full fledged to





newly hatched young. Nests in hollows in trees.  
Examined 3 nests in holes in limbs of dry hardwood trees.

Lichmera.- Appears commonest bird on island; some appear to have rusty tinged uppers. Is probably incana as it appears slightly different to Erromanga. (♂ appears larger than ♀.? If so, ratio is about 1-12 or more).

Myzomela.- Fairly common. Smaller and duller than Tanna.

Zosterops.- (nig Rescens?) appears very similar to macmillani of Tanna, but smaller and throat duller and paler. Is distinctly smaller than mac. Appears to be the only Zosterops on Uvea. Possibly closer search in more virgin bush may reveal others.

Seabirds.- Common but only 2 common varieties. Sterna bergii and what I believe to be S. nereis exsul. No Petrels seen.

Locals advise returning about Aug. or Sept. next year.

Lifu Is. - Friday, 15th October, 1937.  
(Chepenehe area N.W. of island).

Weather.- Fine calm sunny, very close, after rain.

Time. 12 A.M. - 3 P.M. Birds not moving or calling.

Country. Pure coral uplift covered by scanty soil. Nowhere more than 100 A.SL.

Vegetation. Trees up to 40 ft. with much lower shrubs and many vines, but a good deal of bare ground under 5-6 ft. shrubs, etc. Much secondary growth in old cultivation patches up to 10 ft. high, very dense and tangled.

#### Birds Noted and Remarks.

Accipiter.- None seen and locals say it is rare here but common in N.C. Locals say 3 species of hawks are present.

Ptilinopus greyi.- Common and appear usual.

Cacomantis.- Swirl heard calling.

Collocalia.- Only 1 species seen (spod. leuc.) but it was common. Appears large and bright like Uvea.

Halcyon.- Common. Appears paler unders than Uvea and lighter blue on back. Also tail appears longer.

Lelage.- Common same as N.H. Breeding saw adult feeding young.

Coracina.- A pair seen. Appear very much smaller than N.H.; bill is not so large and prominent; colour about the same as N.H. Call much thinner and weaker.





Rhipidura.- Only one seen. A very distinctive bird. Larger than R. brench flab.; back dark grey almost black; white in tail not conspicuous. Bird's carriage is different (more upright) R. f. b. body appears longer and feathering not so fluffy, a sleeker bird. Has very prominent white streaks above and below eye; chin white; neck has prominent spots or long streaks broadening at base forming almost of lower breast collar of black; vent pale (?). A very striking bird. Possibly Rhip. spid. verr.

Myagra.- Common.- All appeared same as N.H. White in tail certainly not noticeable in field. Possibly M. cal. mel. is present on Lifu as well as Mare and all I saw were M. cal. mel. Maybe M. cal. vird. is also present.

Gerygone.- Common and shy. Haunts low dense 10 ft. shrubs of secondary growth on old cultivations. Also seen in forest up to 30 ft.

Pachycephala.- Numbers heard calling, apparently common and shy. A call which sounded different to me (comp. N.H.) may have been Zosterops inornata, but I doubt it. P. pec. lett. being a stranger to me, its calls are not all yet known by me and it was most probably a ♀ calling and sounding different.

Artamus.- Common.

Aplonis.- Common and breeding.

Philemon.- Several heard calling and one seen in flight.

Lichmera.- Very common. Appears same as Uvea.

Zosterops.- 2 species seen. A.-Small yellowish green, especially prominent yellowish green wash on rump in flight (probably minuta) B.-Larger bird which appears in field identical with Uvean bird.

Erythrura.- A small flock seen and others heard. Is at present breeding in holes in coral rock.

Seabirds.- One unidentified Booby seen between Uvea and Lifu; two common Sternas of Uvea seen. No Petrels seen.

Mare Is. - Saturday, October 16, 1937.

Tardine Anchorage (S.W. of island).

Arrived Mare Island 9 A.M. Weather fine and clear, S.W. wind and heavy swell caused steamer to leave almost immediately. Lucky to get self and cargo ashore as special favor.

Local Government Doctor making visit and inspection caused labor shortage and impossible to get anything done. During afternoon went for motor drive to Larocke (N.E. of island) and back by road through centre of island.





Noted. - Mare has 4 distinct types of country.

1. Tall forest 30 ft. trees; this type mostly on coastal strip and cliffs.
2. A semi tall forest of 20 ft. trees with good deal of ferns and shrubs underneath. This I believe to be the real original type for Mare.
3. Lantana gant and small 10-15 ft. trees and shrubs very dense and tangled.
4. Open grassland plains with odd patches, trees and scrub. Covered with ferns, grass and low 2 ft. (much guava) shrubs. (This type is very extensive and found only on interior plateau).
- 4a. Another semi type is native garden secondary growth. The whole island does not anywhere reach more than 300 ft. and is all coral uplift covered with a shallow but fertile soil. The open plains are almost pure coral rock under an inch or so of soil. During drive, saw Accipiter, Myagra, Lichmera, Aplonis, Zosterops 2, Circus, Columba, Ptilinopus greyi, Coracina (?), Philemon, Cacomantis, Collocalia (2) (?) (esculenta, spod. leuc.?) Halcyon, Lalage, Erythrura. Most of these seem fairly common. Saw Rordorf and agreed to rent house for 400 F per month including food.

Sunday, October 17, 1937.

Mare Is., Tadine

Went to south of island visiting chiefs to facilitate work later on. Arranged to employ interpreter at 150 F per month (find himself) also assist in camping, etc.

Saw and heard 1. Turdus near Medu, said to be very rare.

Saw several Accipiter during day. Philemon seemed common south.

Monday, October 18, 1937.

Mare Is., Tadine

Still held up by government affairs. Visited chiefs in N.W. of island. Gave Mr. Rordorf 400 F order on Brock, Noumea.

Cargo still unopened in dock for lack of labor. (a.d.) Cacomantis calling at night.





Tuesday, October 19, 1937

Have interpreter and one other boy on today giving hand carting and opening cargo and settling into camp. Have most of the gear out and should be able to get a start tomorrow.

Note Tringa brevipes seems common on rocks along foreshore.

Cacomantis calling at night.

Loyalty Island - Wednesday, October 20, 1937.

Mare Is. District Tadine (S.W. side of island).

Weather. Fine, sun and cloud, light northerly drift changing to N.W. slowly. Close and hot. Clouds about 70 o/o of sky.

Vegetation. Low 20 ft. to 25 ft. trees with a good deal of underbrush but ground generally favorably bare. Soil thin layer on pure coral uplift rock. Some patches hardwood scrub and lantana gant about 8-10 ft. in height; very dense and tangled.

Elevation. 10-100 ft. or less above sea-level.

Remarks. Saw Lichmera (v.c.), Aplonis 3 pairs, Myagra (v.c.) mostly males adult. Ptilinopus greyi (f.c.), Artamus 2 pairs, Zosterops 2 species not at all common, Erythrura 2 groups of about 8. Is nesting in holes in coral rocks. Noted one party exploring holes in coral face in bush. Halcyon noted 3 pairs along sea-shore. They were pure white (4) inland saw 2, a rich buff under. Possibly ♂ and ♀. Needs closer investigation. Gerygone (f.c.) in low bush even on ground and also in 20 ft. tree-tops. At casual glance appeared to be 2 kinds, one large and one small, may be juv. and adult; two small shot 1 and 1. Collocalia esculenta urog. very common. Coracina 2 seen. Appears larger than N.H., call is different to W.H. Locals say it was introduced from N.C. Locals say it eats eggs and young of other birds and fowls. Possibly one Turdus tapping snails but not good view of it obtained, Lelage very common in all types of bush seen. Cacomantis numbers heard calling. Philemon 2 heard calling.





Sk. No. 1 Gerygone (Flav. flav.) ♂ 1/2 - white.  
 Shot 7 A.M. in low scrub within 3 ft. of ground.  
Note - all lemon unders, little or no white on breast.

Soft parts - Iris red or reddish brown. Bill black.  
Legs and feet dull umber or black.

Weight - 6.7 grams. W. 52 - Tl. 42.

Moult crown o. Abr. W/N T/F up. tail covers vm.

Stm. 3/4 insects, insect eggs, scale insects.

Sk1. comp. ossif.

Sk. No. 2 Gerygone (Flav. flav.) ♂ 1/1 white (damaged).

G.s. Note - white breast, lemon wash abdomen.  
 Shot 9 A.M. in low scrub within 5 ft. of ground.

Weight 7.07 grams.

W. 54 - Tl. 43.

Moult Nil. Abr. W/T N.

Stm. 1/2 insects.

Sk1. comp. ossif.

### Mare Is.

Tadine Area (S.W. of island) - Thursday 21 Oct., 1937.

Cocomantis calling last night; full moon

Fine, sunny, very hot, light N airs, cloud light  
 at 9 A.M. 10 o/o increasing to 50 o/o at 12 A.M.

Went south from Tadine along coast never more than  
 150 yards from sea. Vegetation right to sea edge of  
 10 yd. coral rock cliffs. Low scrub and tall 30 ft.  
 trees. Good deal of coconuts. Many vines and ropes.

Saw Atramus F.c., Aplonis 6, Chalcophaps 2, Lichmera  
V.c., Coracina 2, Myagra 6, Zosterops 2, spec. F.C.  
Gerygone C, Philemon 4, Collocalia esc. urog. Cm.,  
Halcyon 6, all buffy.

Chalcites 1, Cocomantis many calling. Ptilinopus  
greyi 1, Lelage V.C. Saw one bird which looked like  
Rhipidura but bad night and in flight made it very  
 uncertain.



Sk. No. 3 Aplonis (Striata atronitens) ♀ 1++ o.f.e. diam.

Bird very fat. 1

G.s.  
 largest ooajte 12 mm.  
 2nd 7.5 mm.  
 3-5th 2.5 mm.

Shot 7:35 A.M. in coastal scrub, in low trees 15 ft.

Weight 78.8 grams

Has parasite cases on cheek feathers.

Soft parts - Iris orange yellow with darker ring in middle  
 of iris.

Bill black; legs, feet and claws jet black; under toe  
 pads pale flesh yellowish tinge.

W. 114 - Tl. 62

Moult - W.l. - Abr. W/T V.s.

up. tl. covers o  
 all unders o (neck, chin N).

Stm. 1 fruit and 3 small snails

1

Skl. comp. ossif.

Native name: KO

Sk. No. 4 Zosterops (Minuta?) ♀ 1 o.m.e. diam. largest ooajte

1

G.S.  
 weaker tail Shot 7 A.M. high in tree 30 ft. one of small flock.  
Weight 11.4 grams

Soft parts - Iris rich hazel. Bill upper m. dark horn light  
 white horn edges darker in center and tip; lower m.  
 white horn base darker tip 1.

3

Legs - Light grey slate; feet slate; claws dark white  
 horn; pads pale flesh.

W. 59 - Tl. 44.

Moult Nil. Abr. W/TS.

Stm 3 fruit, seeds

4

Native name: Wa-Sho-Sho.?

Skl. Comp. ossif.

Note.- Yellowish green throat; yellow stripe down center  
 buff; sides, abdomen, tail-coverts lemon wash.





Sk. No. 5 Halcyon - ♂ 1+ white.

M.s. 2

Shot 6:30 A.M. Coastal scrub.

Weight 43.3 grams

Soft parts - Iris dark brown. Bill jet black + base lower M.

Legs and feet greyish black.

W. 87 - Tl. 54.

Has flying tick parasites.

Moult WR.(x) - Abr. W/N

Tl. L. 3f, 6. - T/F.

Breast, neck o

Stm. 3 grasshoppers, insects.

4

Native name: ?

Sk1. 9 ossif.

10

Note - White chin, buff unders.

Sk. Chalcities - ♂ 1 white (L.t. slightly larger).

N.c. 2

green tag Badly shot damaged. Seems fairly common. Locals  
No. number speak of migrants passing through. Shote 7:20 A.M.

B.S. in tall bare tree in coastal scrubs. Call seems  
stronger than in N.H.

Weight - 19.6 grams.

Soft parts - Iris golden. Bill black. Legs, feet and claws  
black. Pads dark flesh. Has lot of air pockets  
between skin and body. ?

W. 96 - Tl. 72?

Moult - W.r. 13 (x) - Abr. W/T.S.?

Tl. R.(x) rump o (back crown o).

Stm. 3 pumpkin beetles, beetles, crabs.

4

Sk1. 1 ossif.

2

Native name: ?

Very poor skin; no account.

Sk. No. 6 Artamus - ♂ 3 white.

G.s. Shot 6:15 A.M. - Weight - 36.8 grams.

Common in area. Perches much in coconuts.

Soft parts - Iris dark brown. Bill blue horn, black tip.

Legs, feet and claws black.

W. 134 - Tl. 68

Moult - sides rump c., flanks M. - Abr. W/T. V.s.





Artamus - Continued

Stm. 1 green beetle  
4

Skl. comp. ossif.

Native name:

Sk. 7 Philemon - ♂ 3 white. Badly shot damaged.  
4

Shot 8 A.M.

Feeding in coconut.

Weight - 101.07 grams

Fairly common in area and noisy

W. 143 - Tl. 125.

Soft parts - Iris yellow? golden? Bill black. Legs, feet  
and claws black.

Moult Abr. W/S  
T/S

Stm. 1 beetles  
4

Skl. comp. ossif.

Native name: --

Sk. 8 Corvus (or crow?) ♂ 1 white. - Badly shot damaged.  
4

Said to have been introduced from N.C.

Soft parts - Iris ?. Bill black. Legs, feet and claws black

Shot 7:15 A.M. Coastal scrub

Weight 281 grams Has lice

W. 254 - Tl. 175

Moult Wr. (x) Abr. W/T. S.

nape crown o

neck, chin c

Stm. 1 seeds, berries and grubs.  
4

Skl. comp. ossif.

Native name: Qua-Qua.

Mare Is.

Tadine S.W. of island.

Friday, 22nd October 1937

Rain previous night and rain off and on during day.

Busy seeing resident re-permits, etc.

Saw usual run of birds.



Friday, 22nd October 1937 (Continued)

Aegotheles - Local tells of a night-jar appearing after a cyclone.

Corvus - Also tells me Coracina was introduced here 22 years ago from New Caledonia.

Saturday, 23rd October 1937

Weather - Fine clear, sunny; very close and steamy. Clouds  $\frac{1}{10}$   
white cumulus.

Type Country - Area NE of Tadine on plateau. Two distinct types (1) low 8-12 ft. hardwood trees and scrub, fairly open in places and very dense in others; (2) Tall forest up to 30 ft. trees, scanty underbrush and scanty secondary trees, but few low 2-5 ft. shrubs, fairly open under tree top level.

Saw usual run of birds. Corvus 3, Lalage v.c. types, Lichmera v.c. near coconuts not many in tall forest. Aplonis common. More in low scrub than forest. Cacomantis c. in both types. Gerygone common in both types. Possibly commoner in low type. Myagra ♂ very common, no ♀ seen at all; commoner in low type scrub, but common in both. Ptilopus greyi common in tall forest. Philemon 4 in both types 2 and 2. Halcyon few in both types; calling, none seen. Chalcites 3 heard calling all in low type scrub. Erythrura 2 parties heard and seen both in low type scrub. Collocalia urog. common in open type country low scrub and along roads, etc. Circus 1 seen over open type low scrub. Artamus seen along foreshore flats. Zosterops in all types country common. Possibly commoner in low to medium scrubs is not quite so common in tall forest as other 2 places, but nevertheless is common even there. Saw one bird indistinctly which perched under a sloping limb like a tree creeper. Fired and brought feathers, but failed to kill it, believe it was a Rhipidura of some sort. It was about 25 ft. up, just below leaf canopy of tall forest.

Sk. 9 Erythrura - ♂  $\frac{1}{1}$  white (yellowish) 8.5 X 6.5 mm.

Soft parts - Iris light brown. Bill black.

Legs and feet lightish tan flesh

Shot 9:30 A.M. Low open hardwood shrub

Weight 13.5 grams





Erythrura - (Continued)

Many parasites on cheeks. Note slight beak deformity.  
Fairly common. One of small family group of 4.  
(Noted locals trapped 4 on 20-10-37 - 4 on 23-10-37)  
right at house (store) on beach.

W. 55 - Tl. 46.5

Moult Nil. - Abr. W/T N.

Stm. 1 seeds Sk1. comp. ossif.  
4

Native Name: Gua-Dong-or-Dong.

Sk. 10 Zosterops - ♀ 1 and ome. breeding patch. diam.  
1

G.S. largest ooayte 4 mm. 2nd 1.5 mm.

Shot 7 A.M. (?) Low hardwood scrub.

Weight 12.5 grams

W. 58 - Tl. 44

Moult Nil - Abr. W/T. N.

Stm. 1 spider, insects - Sk1. comp. ossif.  
4

Sk. 11 DITTO ABOVE

Zosterops - ♂ 1 and white 9 X 6.25 mm.  
1

Shot 8:30 A.M. Tall forest

Weight 12.25 grams

W. 60 - Tl. 46 Bird very fat. Has lice.

Moult neck, chin o - Abr. W/T N. - nape o

Stm. o few seeds and scale insects residue.  
o

Sk1. comp. ossif.





Mare Is.Tadine (S.W. of island) - Saturday, 23rd October 1937Sk. 12 Zosterops ♀  $\frac{3}{4}$  and o.c.e.Shot 9 A.M. Low hardwood scrub. Weight 12.65 grams  
Bird fairly fat.W. 60 - Tl. 45Moult Nil. - Abr. W/T N. - Sk1. comp. ossif.Stm.  $\frac{3}{4}$  small black vine berries.Sk. 13 Zosterops - ♂  $\frac{1}{1}$  white (shot damaged)  
G.s. 1

Shot 9:15 A.M. Low hardwood scrub

Weight 12.92 grams. (somewhat shot damaged)W. 61 - Tl. 48Moult Nil. - Abr. W/T N. - cheeks o.Stm.  $\frac{1}{2}$  fruit and seedsSk1. comp. ossif.Sk. 14 Myagra - ♂  $\frac{3}{4}$  white u.t. (l.t. 10 X 6 mm. r.t. 6.5 X 4.75)  
F.s. 4Shot 7:15 A.M. Low hardwood scrubs. Common all over  
island.Weight 12.83 grams.

Native name: Wah-Dui-Dui. - (shot damaged).

W. 75 - Tl. 66.5Moult Nil. - Abr. W/T. N.Stm.  $\frac{1}{1}$  small beetles.Sk1. comp. ossif.Sk. 15 Lichmera - ♂  $\frac{3}{4}$  white u.t. (l.t. 9 X 5 mm. r.t. 6 X 4.5).  
F.s. 4Very common anywhere where coconuts are and fairly  
common in many other areas, not so common in tall  
forest.

Shot 10 A.M. Low hardwood scrub near coconuts.

Weight 15 grams.

Local Native name: Wah-si-si.

W. 73 - Tl. 60Moult Nil Abr. W/N.  
T/S.



Lichmera (continued)

Stm. 1 minute insects  
2

Sk1. Comp. ossif.  
Vomited honey when shot.

Sunday, 24th October 1937 - Skinning, letter writing and sorting equipment, skins, etc.

25th October 1937 - (Monday) Tadine Area. (near Tadine borders Guamu). - Tawai district - Rawa village.

Weather - Fine, clear, sunny, SE winds. Clouds 0-5 o/o.  
Type Country - Principally forest 20-25 ft. (60 o/o), 30 o/o low hardwood scrub 10 o/o very low scrub and lantana gant, bordering on extensive grasslands of Tawai. Saw usual run of birds. Coracina more common. Saw and shot one Rhipidura, (same as that seen of Lifu probably). Saw one male, Myzomela. Appears smaller than Tanna. Evidently inhabits bush and not coconuts as in r. h., is probably driven away from coconuts by Lichmera. Locals say Myzomela is common on flowering Eretrene (cocoa-mother, coral tree) tree. Saw or heard 3 Chalcites, Cocomantis common calling. Obtained full family of Gerygone, 2 adult and 2 fledgling. Appears definite there, 2 species of Gerygone as these fledglings are like adults, white unders and not lemon on breast as in Sk. 1. Must investigate low hardwood scrub 3-5 ft. for lemon breasted type. Saw one Accipiter flying high over forest land, went up and up out of sight.

Sk. 16 Rhipidura - ♀ 14 and imm.

Very rare. First one definitely seen. Seen on low shrubs in low hardwood type of country, in area already gone over, near roadside. Carriage very upright. Shot 7 A.M. Weight 11.02 grams.

Soft parts - Iris dark brown - Bill black, base mandible white. Legs, feet and claws dark nigger brown, pads pale flesh. Evidently rufous spots in wings may be indication of immaturity in this species. The same as in brenchleyi.

W. 70 - Tl. 89





Rhipidura (continued)

Moult Tl. covers o - W.R. (x) - Abr. W/N  
 breast, neck, chin o T/V.S.  
Stm. 1 insects Skl. Not ossif.  
 1

Sk. 17 Halcyon - ♂ 1 and white  
 2

Shot 7:30 A.M. Weight 47.1 grams Tall 25-30 ft.  
 forest.

Paler unders, black only stripe. Has flying ticks.

W. 90 - Tl. 54 Possibly juvenile?

Moult - W,R. (x) Abr. W/T. N.

Stm. 1 beetles, wasps. Skl. ?  
 1

Monday, 25th October 1937

Sk. 18 Accipiter - ♂ 3 white (wrinkled slack looking).  
 4

Sums common in all the area north and east of where  
 this was shot.

Soft parts - Iris golden yellow - Bill black cere -  
 greenish lower m. and gape bluish horn. Legs and feet  
 dull yellow suggestion green - claws black. Has winged  
 parasites, put in spirits.

W. 245 - Tl. 183. Shot 11 A.M. Weight 259 grams.

Moult Abr. W/S.

Stm. 1 lizards T/C.  
 4

Skl. Comp. ossif.

Sk. 19 Chalcites - ♂ 1 - white  
 2

Tall forest and low scrub areas about 50-50 near open  
 grassland plains.

Soft parts - Iris brown. Bill black. Legs and feet blue  
 black.

W. 96 and Tl. 67. Shot 8 A.M. Weight 19.7 grams

Moult - W. sec. odd Abr. W/T. s.

Upper back, nape o; crown c; back crown m  
 chin o, neck o

Stm. 1 insects, beetles (mulch).  
 1

Skl Not comp. ossif. 1 ossif.  
 2





- Sk. 20 Chalcites - ♂ imm.  $\frac{1}{4}$  (l.t. black; r.t. white and shade smaller than l.t.).  
Same locality and time as above Sk. 19.  
Legs and feet darker than above.
- W. 95 - Tl. 63 - Shot 8:15 A.M. - Weight 19.3 grams  
Moult W. under-coverts m. Abr. W/N.  
Tl. - coverts m T/VS.  
Stm. 1 smelly beetles, insects and insect eggs  
1  
upper and under o scattered  
Skl. Not ossif.
- Sk. 21 Zosterops - ♂ 1 (10 X 5.2 mm.) white  
1  
Shot 8:30 A.M. Tall forest and low scrub 50/50  
W. 59 - Tl. 44 Shot 8:30 - Weight 12.2 grams  
Moult Nil - Abr. W/T. N.  
Stm. 1 fruit, seeds, insects - Skl. Comp. ossif.  
2
- Sk. 22 Gerygone - ♀ 1  
2  
Tall forest 25 ft. trees, near low scrub.  
White breast, lemon flanks. Iris red. One of family of 4. Feeding young.  
W. 51 - Tl. 43 Shot 8-8:15 A.M. Weight 5.7 grams  
Moult Tl. r.t. ? Abr. W/T. S.  
Stm. 3 insects (scale) insect eggs - Skl. Comp. ossif.  
4
- Sk. 23 Gerygone - Juv. ♀ o  
o  
Young of above Sk. 23 and 24 and below.  
Shot 8-8:15 A.M. Weight 6.6 grams  
Moult Wr. Abr. W/T. N.  
Tl. all - outwards in increasing order  
Stm. 1 insect eggs, insects, green-fly.  
1  
Skl. Not ossif.



Sk. 24 Gerygone - ♂  $\frac{3}{4}$  white (r.t.  $\frac{3}{4}$  - l.t.  $\frac{1}{2}$ ). v.t.

Parent of above. Iris reddish brown.

W. 57 - Tl. 44 Shot 8-8:15 A.M. Weight 6.35 grams

Moult Tl. 1.5.6 Abr. W/S.

nape o

Tl. covers c abraded.

Skl. Comp. ossif. Stm.  $\frac{1}{8}$  insects

Halcyon - ♀  $\frac{3}{4}$  o.s.e. (Too decomposed for skinning).

Tall forest near open grassland. District of Guama  
W. centre of island

Has flying tick parasites. Paler unders.

W. 92 - Tl. 60 - Shot 8 A.M. Weight 52 grams

Stm.  $\frac{1}{1}$  insects

Skl.  $\frac{7}{8}$  ossif.

Following is data added from specimens too badly shot  
damaged for skinning. May be of value.

Gerygone - ♂ juv. o

One of family Sk. 22, 3, 4. Identical with Sk. 23 in  
appearance.

W. 49 - Tl. 35 - Shot 8-8:15 A.M. - Weight 6.8 grams  
(shot twice)

Moult Tl. all - puter in sequence. Abr. W/T.N.

Stm.  $\frac{1}{1}$  insects, insect eggs, etc.

Skl. Not ossif.

Chalcites - ♂  $\frac{3}{4}$  - white

W. 95 - Tl. 67 (x) Shot 8 A.M. - Weight 22.45 grams

Moult - Tl. (x) - Abr. W/T.N.

flanks o

Stm.  $\frac{1}{4}$  beetles, insect eggs?

Skl.  $\frac{1}{3}$  ossif.





Tuesday, 26th October 1937

Mare Is. - Tadine area

Weather - Fine, clear, hot, sunny. Clouds 10-15 o/o.  
SE wind and weather.

Busy skinning and letter writing all day.  
Went out 6 A.M. and shot 2 Philemon before 7 A.M.  
Near house at coast.

Sk. 25 Philemon - ♂ 3 and white (14 X 7 mm.).  
G.S. 4

Coastal scrub. Very noisy  
Soft parts golden. Bill black. Legs and feet dull  
dark slate.

W. 140 - Tl. 126 Shot 8 A.M. - Weight 89 grams

Moult Nil

Abr. W/T.S.

Stm. 1 very small beetles  
4

Sk1. Comp. ossif.

Wednesday 27th.

Steamer day, saw one blue Demigretta. h.l.a. Fine,  
clear, sunny

Thursday 28th.

Letter writing. Saw Myzomela. (wihdy E. strong)

Friday 29th.

Letter writing. Saw one blue Demigretta, several  
Pluvialis, one sterna. (windy E. strong).

Saturday 30th.

Letter writing. Cacomantis calls seldom on moonless  
nights and a single note when it does. (windy E. strong).





Sunday 31st.

Letter writing. Saw one blue Demigretta and Pluvialis.  
(windy E. strong).

Monday, 1st November 1937

Mare Is. (Tadine S.W. of island).

Weather - Clear, sunny, light to moderate E wind.  
Morning light northerly airs. Light sharp shower  
at sunrise and 6:15 A.M. Clouds in N and E heavy,  
daylight 75-80 o/o - 9 A.M. 60-65 o/o.

Type country - South of Tadine - Nidedod and inland.  
Coastal scrubs. Coconuts, lantana low trees 20 ft.  
and good deal underbrush, vines, etc. but semi clear  
ground. Plateau slopes in 2 lifts. Taller trees up  
to 25 ft. with much close secondary scrub 5-10 ft.  
and clear on ground. Plateau top. Low dense hard-  
wood scrub with numerous open patches; trees up to 15  
ft. but average 10 ft. Scanty coconuts.

Usual run of birds. Saw 2 Columba on coastal flats,  
1/8 mile inland. Saw family 4 Rhipidura and shot all,  
2 ad., 2 juv. Saw no Chalcophaps. One only Ptilinopus  
but a few others heard calling. Saw one ♂ ad. Myzomela  
and shot on coastal flats 1/8 mile inland near  
Flamboyant. Not Lichmera around 8 coconuts and scarce  
where coconuts are scarce. Three Chalcites and shot.  
Saw first definite Zosterops lateralis and shot two.  
Numbers at least 20 ♂ adult Myiagra seen and not one  
female.

Sk. 26

Zosterops lat. - ♀ 1 - o.c.e.  
1

Shot 7:30 Feeding on lantana fruits. Coastal scrubs.  
Weight 15.5 grams Iris hazel light brown oak.  
Bill upper m. dark greyish horn tip dark horn; lower  
m. white horn except extreme tip. Legs and feet dark  
flesh, greyish, claws whitish horn.

Specimen very fat.

W. 62 - TI. 50 - Abr. W/T.N.

Moult crown o

Stm. 1 lantana seeds - SkI. Comp. ossif.



Sk. 27

Zosterops lat. ♂  $\frac{3}{4}$  - white

Ditto above. Soft parts identical. Weight 15.4 grams

W. 61 - Tl. 49 - Abr. W/T. N.

Moult - Tl. up. cov. o. - upper back o.

Stm.  $\frac{1}{2}$  black pepper vine grapes - Sk1. Comp. ossif.

Specimen very fat.

Monday, 1st November 1937

Sk. 28

Myzomela - ♂  $\frac{3}{4}$  - white.

Coastal scrubs 25' trees near Flamboyant.

Soft parts - Iris dark brown. Bill black. Legs and feet black. Claws black. Pads yellowish flesh.

Abr. W. v.s.

Tl. s.

W. 62 - Tl. 43.5 - Weight 9.5 grams Shot 8:30 A.M.

Moult

Stm. o minute insects? honey. - Sk1. Comp. ossif. ? (x).

Sk. 29

Chalcites - ♂  $\frac{1}{2}$  - u.t. white (l.t.  $\frac{1}{2}$  and r.t.  $\frac{1}{4}$ )

Coastal scrubs. Shot 10 A.M. Weight 21.66 grams

N.B. This tail, one feather has been replaced, beware in measuring).

W. 99 - Tl. 72 - Abr. n.

Moult - Crown M - Neck m - Flanks o. All up. o except rump. - W. n. - Tl. n.

Stm.  $\frac{1}{4}$  caterpillars, pumpkin beetles, insects.

Sk1.  $\frac{1}{3}$  ossif.  $\frac{1}{3}$  semi ossif.





Sk. 30

Aplonis - ♂  $\frac{3}{4}$  - o.t. (l.t. grey, dark, r.t. white).

Shot 6:15 a.m. - Coastal scrub - Weight 66.65 grams  
W. 115 - Tl. 66 - Abr. n.

Moult - Crown o.

Soft parts - Iris reddish gold - Bill black. Legs  
 and feet black. Claws black. Pads pale flesh.

Stm.  $\frac{3}{4}$  fruit seeds, berries

Skl. Comp. ossif.

Rhipidura - ♀  $\frac{o}{o}$  - juv.

Shot 8:30 - Weight 10.9 grams

W. 69 - Tl. 88 - Abr. n.

Soft parts - Iris dark brown Bill up. man.; low  
M. white base.

Moult - Crown all.

Breast all.

Stm. Minute winged insects  $\frac{1}{2}$

Skl. --

Monday, 1st November 1937

Rhipidura ♀  $\frac{1}{2}$  - Too poor for skinning.

Shot 8 A.M. Coastal slopes to plateau 25' trees.  
 Considerable underbrush and secondary growth.

Weight 9.4 grams

W. 74 - Tl. 91 - Abr. n.

Moult

Soft parts - Iris dark brown. Bill upper m. black.  
 Lower m. white base - Legs and feet dark nigger  
 brown, darker on feet. Claws dark nigger brown.

Pads pale flesh.

Stm.  $\frac{1}{2}$  minute insects.

Skl. Comp. ossif.









Gerygone ♀ 3 - o.s.e. (Lemon flanks, whitish breast,  
4

neck and chin).

Shot coastal slopes 25' trees. Ditto above

Soft parts. Iris reddish brown. Bill upper m. dark brown. Low m. white base under. Legs and feet dark brown. Claws dark brown.

W. 51 - Tl. 42 - Shot 8 A.M. - Weight 7.3 grams

Moult - Abr. n.

Stm.

Sk1. Comp. ossif.

Zosterops Flav. ♂ 1 - white (11 X 7 mm.).  
1

Shot coastal slopes - Ditto - Soft parts identical.

W. 60 - Tl. 47 - Shot 8:15 a.m. - Weight 11.62 grams

Moult - Abr. Nil.

Stm. o fruit residue. - Sk1. Comp. ossif.

o

Tuesday, 2nd November 1937

Light SE wind. - Sun and clouds - Fine.

Clouds 85 o/o

One Accipiter seen flying high over forest. Day spent skinning.

Halcyon - ♀ 1 (White chin, seem buff unders).  
2

Shot 1 P.M. Coastal - near residence.

W. 92 - Tl. 59 - Weight 43.6 grams

Moult n. Abr. n.

Stm. winged insects

Sk1. Comp. ossif.

No skin made.





Wednesday, 3rd November 1937 - New Moon.

Weather - Fine, clear, sunny and cloudy. (Shower in early morning). Clouds 60-80 o/o - wind SE moderate.

Type Country - Ceingute, Wabao and Nea road. SE of island. All tall forest 30-35 ft. trees with much undertrees 10 ft. and good deal ferns, etc. on ground. Lots of forest ropes, etc. fairly dense.

Remarks o' birds - Birds possibly not so common in this type country as in lower type scrub. Both types Zosterops common. Myzomela more common than open type country. Lichmera, almost absent. Gerygone fairly common. Myagra common, but not as common as hardwood scrubs. Philemon very common. Coracina very common. Ptilinopus greyi common. Cacomantis not so common. Chalcites not so common. Rhipidura a few about same as elsewhere. Small rail like bird seen to cross road in tall forest. Columba very few seen. Chalcophaps very few seen. Collocalia possibly 2 types seen esculenta and spodiopygia. Halcyon common. Lalage common. Artamus absent in tall forest. Aplonis common. Erythrura is fairly common.

Sk. 31

Rhipidura - ♀  $\frac{3}{4}$  - o.v.s.e.

Tall forest. Shot in lower 10-15 ft. scrub under tall trees. Feeds generally from 5 ft. to 15 ft.; ranges from ground up to 30 ft.

Soft parts usual.

W. 70 - Tl. 86 - Shot 6:20 A.M. - Weight 10.65 grams  
Moult - Abr. W/S. Good deal body abrasion  
 T/F. especially lower back and crown.

Stm.  $\frac{1}{2}$  minute insects

Sk1. Comp. ossif.





Sk. 36

Philemon - ♂  $\frac{1}{1}$  - white 12 X 7.

Tall forest. Common in area and noisy. Frequents tower tree top level.

Soft parts - Iris light brown. Bill black. Legs and feet dark brown. Claws dark brown.

W. 137 - Tl. 120 - Shot 6 A.M. - Weight 90.2 grams

Moult Abr.

Stm.  $\frac{0}{0}$  residue (insects).

SkI. Comp. ossif.

Sk. 34

Coracina - ♀  $\frac{3}{4}$  o.c.e. - parasites on cheeks - lice.

Tall forest. Shot in higher tree top level. Common in area.

Soft parts - Iris dark brown. Bill, legs, feet and claws black.

W. 246 - Tl. 179 - Shot 6:30 A.M. - Weight 256 grams

Moult Nil (w.r. (x) ) - Abr. n.

Stm.  $\frac{3}{4}$  fruit, berries. SkI. Comp. ossif.

Sk. 32

Zosterops - lat. ♂  $\frac{3}{4}$  - white.

Tall forest. Shot in tower tree top level. Species feed right down to ground level in secondary growth in open country and garden vegetation, especially Zosterops lateralis.

W. 63 - Tl. 52 - Shot 6:45 A.M. - Weight 14 grams

Moult Abr. n.

Stm.  $\frac{1}{4}$  black lantana berries.

SkI. Comp. ossif.



Sk. 35

Zosterops flav. ♂  $\frac{1}{1}$  - white ( 8 X 5 mm.).

Tall forest. Ditto above. Shot, damaged.

Soft parts usual.

W. 57 - Tl. 45 - Shot 6:45 A.M. - Weight 12 grams.

Moult Nil. W.R. - Abr. ?

Stm.  $\frac{1}{2}$  seeds

2

Sk1. Comp. ossif.

Halcyon ♀  $\frac{1}{1}$  - o.c.e.

1

Tall forest in 20' level. - Soft parts usual.

W. 91 - Tl. 60 - Shot 6:45 A.M. - Abr. n.

Moult Nil

Stm.  $\frac{1}{2}$  winged insects -

2

Sk1. Comp. ossif.

Sk. 33

Gerygone ♂  $\frac{1}{1}$  - white

1

Tall forest. Shot in 10-15' scrub under taller trees.

Soft parts usual. white chin and breast; lemon flanks.

W. 53 - Tl. 41 - Shot 9 a.m. - Weight 6.9 grams

Moult - Nil. Tl. (x) Abr. Tl. f.

Stm.  $\frac{3}{4}$  insects.

4

Sk1. Comp. ossif.





Gerygone - ♀  $\frac{1}{1}$  o.m.e.

Ditto above.                      Soft parts usual.

W. 55 - Tl. 43                      Shot 9 A.M. - Weight 6.95 grams

Moult Nil.                              Abr. W/T. N.

Stm.  $\frac{1}{2}$  scale insects, insects

Skl. Comp. ossif.

Thursday, 4th.

Fine, clear, sunny and clouds. SE wind, clouds  
60-80 o/o

Note Cacomantis calling early and full notes at night.  
Saw 1 blue Demigretta and several unidentified terns.  
Busy on mail as steamer due tomorrow.

Friday, 5th.

Fine, cloudy, SE wind moderate, clouds 90-100 o/o -  
low ceiling. Log closed for mailing.  
Saw one blue Demigretta and one unidentified tern well  
out to sea. Number of Tringa and Pluvalis along rocks  
off foreshore.





Saturday, November 6th 1937.

Dull, cloudy, overcast, odd scattered showers.

Moderate N.E. wind, backing to SE.

Seeing Gendarme re permits

Sunday, November 7th, 1937.

Strong SE. wind - Clouds 85%.

Went North towards Netchi, along foot of 100 ft. coral coastal cliffs.

Collorali (esculenta and spodiopygia) appear to nest in caves in these cliffs. Saw usual run of birds. Noted Artamus nesting in broken off top of coconut trunk 30-40 ft. from ground. Noted. Chalcities congregating and in song evidently mating. Saw and shot 1 ♀ Myagra, 2 only seen since arrival on Mare, whereas have seen at least 50 adult ♂ plumage. Saw and shot 1 ♀ Lichmera easily distinguished by size and duller plumage in field.

MYagra. ♀  $\frac{1}{1}$  ++ O.F.E. diam. largest (4' 5 mm. mm).

Sk. 37 Open coastal scrubs.  
Soft part. Iris dark brown. Bill bluish torn base up and low man.  
Lip and sides, black horn. Legs and feet slate  
Claws slate  
 Female plumage. Has parasites on (small winged ticks).  
W. 71 Tl. 65 Shot 7:45 A.M. Wt. 14.4 grams  
Moult Nil. ABR. W & T Nil.  
Stm. 1/2 minute winged insects SKL. comp. ossi.

Sk. 38 Lichmera ♀  $\frac{1}{1}$  O.C.E. diam. largest compte 2 mm.  
 Open type coastal scrubs, within 7' off ground feeding.  
Soft part. Iris dull grey. Bill black  
Gape, soft yellowish.  
Legs, feet and claws, pale slate Pads dark flesh.  
Moult Tl R.t. nape-crown ♀ fav. Arr W.F. Tl. C.  
W. 64 Tl. 53. Shot 7:30 A.M. Wt. 10.5 grams  
Stm. 0 minute insects SkL. comp. ossif.  
 0



Sk. 39 Lichmera ♂  $\frac{3}{4}$  + white  
 Ditto above Soft part usual.  
 W. 73 TI. 59. Shot 7:30 A.M. Wt. 15.7 grams  
Moult TI L.i Abr. WIF. TI.C.  
Stm.  $\frac{1}{4}$  Honey Minute Insects? Auk. Skl. Comp. ossif.

Sk. 40 Lichmera ♂  $\frac{3}{4}$  white  
 Open type coastal scrub. Soft part usual  
 W. 74 TI. 61 Shot 9:45 Wt. 16.9 grams  
 W.O.  
Moult (TI. and Covs. M. up covs. ♀ All unders Covs.  
 (TI. L4.  
 All uppers Covs. Abr. TI.0 W. 0.  
Stm.  $\frac{1}{2}$  insects Skl. comp. ossif.

Artamus ♀? O.V.S.E.  
 Shot open type coastal scrub. Perched high on  
 base tree tops.  
Soft part. Iris dk. brown. Bill light blue, up  
 and low man. black lip  
Legs feet dark grey. Claws black  
W. 132 TI. 66 Shot 9:30 A.M. Wt. 37.6 grams  
Moult Nil. Abr. W/T N.  
Stm.  $\frac{3}{4}$  beetles, insects Skl. comp. ossif.  
 $\frac{4}{4}$  Too damaged for skin.

Sk. 41 Halcyon ♂  $\frac{1}{2}$  + white  
 Open type coastal scrubs soft parts usual  
 Has flying ticks put in alcohol. Buff unders white  
 chin, black collar touch white above.  
W. 90TL55 Shot 4:30 PM. Wt. 45.3 grams.  
Moult Nil. Abr. W/N  
 TS.  
Stm.  $\frac{3}{4}$  chopped up insects. Skl. ?comp. ossif.  
 $\frac{4}{4}$

Tadine (S.W. of Island) direct E of Tadine. Plateau and coastal strip  
Monday, 8th November 1937

Weather. Overcast, dully showry. SE to E light cloud 90-100%

Type Bush. Tall forest 30 ft. trees, open underbush, some  
 secondary trees fairly open bare ground. 10% low  
 hardwood scrub open type. Coastal flats, cliffs  
 and plateau top all coraline.





Birds. Usual hum of bird. Noted (2 observers) definite yellowish undered Gerygone evidently very shy and rare, possibly juv. but doubt it. Specimen already got. It was in tall forest but kept to secondary trees and shrubs, shy and active. Noted ♀ Myagra very much more common, 3 shot all that were seen and about 8 or 9 ad. ♂ were seen. Noted Coracina feeding on open ground in tall forest, food not seen, 1 near clump of ferns. Rhipidura more common than usual.

Sk. 42 Myagra. ♀  $\frac{1}{2}$  +

Tall forest 20-35' trees, fairly open type. Ground rather clear with good deal of secondary growth.

Soft part usual Female plumage.

W. 71. Tl. 64. Shot 7:10 A.M. Wt. 12 grams

Moult Nil.

Abr. W/T. V.S.

Stm.  $\frac{1}{1}$  insects beetles

Sk1. comp. ossif.

Sk. 43 Myagra ♀  $\frac{1}{2}$  + 0.V.S.E.

Tall forest secondary growth

Soft parts usual

W. 69 Tl. 62

Shot 7:45 A.M. Wt. 13.7 grams

Moult Nil

Abr. W/T VS.

Stm.  $\frac{1}{2}$  beetles

Sk1. comp. ossif.?

Sk. 45 Myagra ♂  $\frac{1}{4}$  - white. Sub. ad.

Coastal cliffs shorter bush 20 ft.

♀ plumage

W. 42 Tl. 64

Shot 9:10 A.M. Wt. 16.6 grams

Moult Nil. (X) Abr. W/T N.

Stm.  $\frac{1}{2}$  beetles

Sk1. Comp. ossif.

Sk. 46 Myagra ♂  $\frac{1}{1}$  - white (8 x 5 mm).

Tall forest ad. ♂ plumage. head shot damaged

W. 74 Tl. 65

Shot 7:45 A.M. Wt. 13.5 grams

Moult Nil.

Abr. W/TN.

Stm. 1/2 insects beetles

Sk1. comp. ossif.





Gerygone ♂ 1 + Gonads damaged

1

Tall forest. Inhabits secondary trees and shrub up to 15 and 20 ft. principally.

White under lemon flank. Possible juvenile.

Poor skin.

W. 52.5    T. 41.2.    Shot 7 A.M.    Wt. 6.6 grams

Moult W.R. (X) Nil?    Abr. W/7N.

Stm. 3 insects    Sk1. comp. ossif.

4

Sk. 48 Gerygone ♂ 1 + white (7.5A 5 min)

Ditto above. <sup>1</sup> Very white abdomen yellow flanks

W. 53    T. 44    Shot 7:05 A.M.    Wt. 7.22 grams

Moult Nil    Abr. W/T.N.

Stm. 1 insects, scale, insect eggs.    Sk1. comp. ossif.

2

Sk. 49 Chalcites ♂ 1 white

2

Shot tall forest 30 ft. trees etc. Calling much and decoyed.

W. 97    T. 72.5    Shot 7:30 A.M.    Wt. 21.2 grams

Moult W.R. 2.

Upper back nape crown cheeks M.    Abr. W/T N.

All unders M x chin 0.

Stm. 1 caterpillars    Sk1. 9 ossif.? (x)

4

10

Sk. 47 Rhipidura ♂ 1 - white (transparent semi) Juv.

4

Shot 10:00 A.M. Coasta scrubs. Has juv. rufous wing marks.

W. 77    Tl. 91+    Wt. 10.9 grams

Moult W.L. (x) Nil    Abr. W/N. T/F

Stm. 3 insects, ants    Sk1. not ossif.

4

Sk. 50 Lichmera ♂ 3 - white

4

Shot low hardwood scrub

W. 73 TL 60    Shot 8:15 A.M.    Wt. 15.5 grams

Moult W.R. 16

L. (x) 16F, 17.    Abr. W/T. N.

Tl. (x) R1.F L. 2 Cvs. M

All uppers 0 cheeks C.

All unders 0.

Stm. 1 insects    Sk1. comp. ossif.

1



Sk. 44 Philemon ♂  $\frac{3}{4}$  +. White. 13.5 x 8.

Tall forest common in area frequents lower buds much as well as lower tree tops.

W. 139 Tl. 120 Shot 8:30 A.M. Wt. 89.75 grams

Moult W.L. (x) Nil Abr. W/T V.S.

Stm.  $\frac{1}{4}$  Small wild black pepper Skl.

or grape vine seeds.

Halcyon ♀  $\frac{1}{1}$  O.S.E. diam large 3 mm. 2nd larg. 2.5

breeding patch

Tall forest. Badly shot damaged

W. 95 Tl. 58.5 Shot 8:50 A.M. Wt. 47.2

Moult Nil (x) Abr. W/ T/S much body colour abras.

Stm.  $\frac{1}{1}$  wasps, beetles, gings Skl. comp. ossif.? (x)

(pecking in red rotten wood?).

Tuesday, 9th November 1937

Weather. Dull cloudy overcast, strong E to NE wind force 6, clouds 100%.

Type of Bush. Tall forests. 20'-30' trees! Much open ground and secondary growth.

Birds Noted. Gerygones common. Myagras (7 or 8 males) Philemon, Chalcites and Lichmera. Practically all frequenting low scrubs. 3 Coracina heard.

Lichmera ♂  $\frac{3}{4}$  + white

Open forests, 15' from ground. Sparse secondary growth. Soft parts usual. Has abdominal parasites, worms, put in alcohol, tag no. 207. Small. vial no. 3 Intestinal parasites.

W. 75 Tl. 59 Shot 8:45 A.M. Wt. 15.5 grams

Moult (W.R. 8.16 Tl. Cl Covs. M. Abr. TL slight.

(W.L. 8.9 up and low M.

Stm.  $\frac{3}{4}$  insects Skl. comp. ossif.





Sk. 51 Rhipidura ♀  $\frac{1}{4}$

Open type low forest. Much secondary undergrowth.  
Soft parts usual. Juvenile buff wing spots tending  
to white in some.

W. 70. TL. 88 Shot 7:30 AM Wt. 9.7 grams  
Moult TL: covs. M Nape 0 Abr. W/T N.  
flanks C vict., belly 0. up. back M  
Stm.  $\frac{1}{2}$  insects Sk1. not ossif.

Myagra ♂  $\frac{1}{1}$  ++ 10.5 x 7 L.T. opake RT. white

10' scrub near forest 20' - 30 trees. Males common in area.

W. 76 TL. 66 Shot 7:45 A.M. Wt. 12.5 grams  
Moult Abr. W/T N.  
Too shot damaged for skinning  
Stm.  $\frac{3}{4}$  insects Sk1. comp. ossif.

Wednesday, 10th November 1937

Weather. 3-4<sup>11</sup> rain previous night. Showers off and on till 8 A.M.  
Cloud 100%  
8-10 rain. Odd patches seen clouds 80-90%.

Type Country. Coastal scrubs. 10% tall forest. 20% hardwood  
scrubs. 40% secondary growth, 10% native gardens.  
20% 20 ft. scrubs.

Birds Noted. Only common varieties seen, all rather subdued and  
inactive.

Sk. 54 Ptilinopus greyi ♂  $\frac{3}{4}$  - UT white CT 13 x 7 RT. 9.5 x 6

Native garden lands. Fairly common all over area but  
subject to native and especially white persecution  
for eating purposes.

Soft part Iris golden strawberry ringed. eyelid edge  
yellow bare skin greenish grey.

Bill pale green and paler tip.

Legs and feet dull deep red, claws black.

Note: Has same peculiar odour as N.H. birds.

Has some winged parasites. Has L.W. primary deformity.

W. 130 TL. 85 Shot 8:40 A.M. Wt. 113.1 grams  
Moult Upper back 0, Nape C, crown 0 Abr. W/N T/VS  
Breast check C chin 0  
Stm.  $\frac{0}{0}$  fruit residue Sk1.  $\frac{9}{10}$  ossif.





- Sk. 53 Zosterops flav. ♂ 1 +. White. 10.5 x 6.5  
1  
Coastal scrubs, tall forest. Soft parts usual, R.W. (x)  
W. 61 TI. 48 Time 9:00 A.M. Wt. 13.2 grams  
Moult Abr. W/N  
T/V.S.  
Stm. 1 Vine sticks Skl. Comp. ossif.  
2
- Sk. 52 Zosterops flav. ♂ 1 ++ white. U.T. (L.T. 11 x 7.5 R.T.  
9.75 x 7.5 mm.) 1  
Coastal scrubs. Soft parts usual.  
W. 59 TI. 47 Time 7:45 A.M. Wt. 12.71 grams  
Moult Nil ABr. W/N  
T/V.S.  
Stm. 1 chili, fruit and seeds Skl. comp. ossif.  
2
- Sk. 55 Rhipidura ♀ 3 O.S.E.  
4  
Shot coast scrubs 25 ft. trees much secondary growth.  
Inhabits scrubs up to 20 and 25 ft.  
Soft parts usual. White wing spots of adult,  
thus lice on wings.  
W. 73 TI. 86.5 Shot 9:10 A.M. Wt. 9.68 grams  
Moult upper back 0. Abr. W/TN  
Stm. 1 insects. Skl. comp. ossif. (x)  
1
- Sk. 56 Rhipidura ♂ juv. 0 + transparent  
0  
Shot coastal scrubs near above. No spots yet on breast.  
Legs much paler than usual. Very juvenile but gape  
not soft.  
W 73 TI. 80 Shot 8:50 A.M. Wt. 12.9 grams  
Moult WL (x) Abr. W/T N  
W: covs. and second 0  
TI all (from out to inner order) covs. A  
All uppers 0 to M brown = rump  
Chin C all unders M.  
Stm. 1 insects Skl. not ossif.

Thursday, 11th November 1937

General holiday and ceremonies for armistice.

Weather fine clear, visibility very good after night of rain,  
wind light SW airs. Clouds 10-30%.



Friday, 12th November 1937

Weather. Fine clear sunny light SW to S wind. Clouds 10-15%.

Type Bush. Low open hardwood scrub much bare ground 10-15% trees.  
Tall forest 30 ft. trees, good deal secondary growth.  
Scanty ground bush.

Birds Seen. Usual run of birds. 3 Columba noted, once calling  
in tall forest. Note Rhipidura much commoner than  
previously thought. 1 ♀ plumage Myagra seen.  
4 ♂ ad. seen.

Lelage ♂ 1 + white  
2

Shot low open hardwood scrub. Common all over island.  
Calls much. Generally frequents upper foliage of trees,  
often perches on upper side of leaf canopy. Probably  
suffers a good deal from hawks in consequence.

Soft part: Iris dark brown, bill black  
legs feet and claws black

Has white feathers in crown. Damaged too much in skinning.

W. 87 Tl. 76.5 Shot 6:00 A.M. Wt. 26.05 grams

Moult upper back crown 0 Abr. W/S

All unders x flanks neck chin M. T/F longest

Stm. 1 banyan figs Skl. comp. ossif.

1

Sk. 57 Lelage ♀ 1 -  
2

Ditto above. Sub adult brown in wing.

Has white crown feathers

W. 87 Tl. 76 Shot 6:20 A.M. Wt. 25.7 grams

Moult W. sec. 0 Abr. W/T C

Upper back, nape, 0 crown C.

All unders C

Note irregular length tail feathers

Stm. 1 fruit, caterpillars, insects Skl. comp. ossif.

Fruit <sup>T</sup>60%, 3 caterpillars 30%, insects 10%

Sk. 58 Zosterops flav. ♀ 1 + O.C.E. diam largest oocyte 25 mm.

W. 59 Tl. 46 1 Shot 5:45 A.M. Wt. 12.6 grams

Moult Nil Abr. W/T N

Stm. 1 berries and fruit Skl. comp. ossif.

1





Zosterops lat. ♂  $\frac{3}{4}$  white U.T. Lt. 7 x 5 RT 6 x 5

Shot open low hardwood scrub

W. 64 Tl. 50 Shot 6:15 A.M. Wt. 15.5 grams

Moult TL (x) Abr. W/T N

Stm.  $\frac{1}{1}$  hard large suchol berries Sk1. comp. ossif.

Sk. 59 Myzomela ♂  $\frac{1}{2}$  + white + semi sub adult. 10% brown feathers. 2

Tall forest. Good deal secondary growth. Feeding in upper leaf canopy and also secondary tree growth.

Soft parts usual. Has good deal brown feathers of transition plumage

W. 60 Tl. 43 Shot 7:15 A.M. Wt. 9.4 grams

Moult Nil Abr. W/T S.

Stm.  $\frac{1}{4}$  insects, honey? Sk1. comp. ossif.

Sk. 60 Myagra ♀  $\frac{1}{1}$  - O.C.E. diam. largest oocyte 2 mm. Head (x).

Low open hardwood scrub. Possibly sub ad ♂ few black feathers

Note: On throat almost sign of black collar

W. 72 Tl. 64 Time 5:40 A.M. Wt. 14 grams

Moult W.R. (x) Abr. W/N

T/V.S.

Stm.  $\frac{3}{4}$  insects beetles Sk1. Comp. ossif.

Note: Warning tail measurement. One feather re stuck

Sk. 61 Lichmera ♂  $\frac{0}{0}$  + white Juv. Specimen very fat.

Short secondary undergrowth - Coastal - near residence

Gape soft yellow. Possible juvenile. Soft parts lighter in colour than adults.

W 70 Tl. 55 Shot 6:00 P.M. Wt. 17.8 grams

Moult W under covs A seconds  $\frac{0}{0}$

Tl. all inner to sequence? covs  $\frac{M}{M}$

all uppers  $\frac{0}{0}$  x upper back  $\frac{M}{M}$

all unders  $\frac{M}{M}$

Stm.  $\frac{1}{1}$  insects, ants Sk1. Not ossif. at all, very thin.

Vomited honey.





Saturday, 13th November 1937

Weather. Clear calm sunny very close thundery type weather clouds 20-30% increasing.

Type Bush. Forest 20-30 ft. trees, good deal secondary trees and shrubs and good deal of ground scrub ferns etc. In coralline valley mostly, below plateau level about 50 ft.

Birds Noted. Usual run of birds seen but note they were mostly silent, but commenced calling a good deal when seen went under clouds. Noted unidentified large bird possibly Circus or Accipiter. Myzomela has very different calls to New Hebrides birds. Philemon very common. Aplonis common. Country covered was ideal for Turdus but none were seen or heard. Saw and shot 1 Columba. Noted Halcyons seen in forest seemed more buffy unders than coastal open scrub ones but no definite line of demarcation is evident as coastal are often as buffy as forest but buffy more common in forest. Gerygone common all white breasted type. Coracina common. Rhipidura present and nesting. Lelage common. Lichmera almost entirely absent as are coconut palms, Myzomela seems to take its place to a less numerous degree. Zosterops flav. is present and common in forest. Z. lat. appears rarely there, favours lantana gant and more open territory. Cacomantis and Chalcites seen and heard in forest but more common in hardwood scrubs or margins of tall forest. Cacomantis seems especially to favour hardwood scrubs. Forest examined and valley sites (cliffs) ideal for Tyto but none were seen, although a disgorged pellet of fur and bones was seen bkt this may have been from a snake. Noted birds seem to favour this sheltered valley for night roosting as droppings were common. Erythrura heard in area but not common, probably nesting.

Sk. 65 Coracina ♀ 1 +  
2

Shot tall 20-25 ft. forest. Soft parts usual.

W. 231      Tl. 159      Time 6:45 A.M.      Wt. 274 grams

Moult Nil      Abr. W/F 1

T/S

Stm. 1 grasshoppers, seeds      Sk1. comp. ossif.  
Great deal of lice parasites and lice eggs on cheeks.



- Sk. 66 Halcyon ♂  $\frac{1}{2}$  + white - U.T. (LT  $\frac{3}{4}$  - RT  $\frac{1}{2}$  - )  
 Shot tall forest. Very buff unders lightish (not much white) chin few dark bust marks.  
 Has flying ticks and a small winged parasite fly.  
W. 88 TL. 54 Time 8 A.M. Wt. 43.7 grams  
Moult Abr. W/N  
 T/Vs.  
Stm.  $\frac{1}{4}$  beetles (rotten wood?) Sk1.  $\frac{9}{10}$  ossif.
- Sk. 64 Myagra ♀  $\frac{1}{1}$  + O.S.E. Diam. largest oocyte 2 mm.  
 (♀ plumage. No dark breast marks)  
 Shot tall forest.  
W. 71 TL. 64 Shot 9 A.M. Wt. 13.8 grams  
Moult LW (x) Nil Abr. W/TN  
Stm.  $\frac{1}{1}$  beetles Sk1. comp. ossif.
- Sk. 63 Rhipidura ♂  $\frac{1}{1}$  + white (10 x 5.5 mm.)  
 Shot tall forest  
W. 75 W. 89.5 Shot 9:05 A.M. Wt. 12.6 grams  
Moult W.R 5.11) Abr. W/TN  
 L7 ) second 0 fur  
TL. R2. L2  
 Breast 0 fur  
Stm.  $\frac{1}{1}$  insects Sk1.  $\frac{3}{4}$  ossif.
- Sk. 62 Columba ♂  $\frac{3}{4}$  - white  
 Tall forest. Not very common, suffers from native, white and bird fancier persecution.  
Soft part Reddish orange. Tare skin, dull red and greyish. Bill red white horn tip. Legs and feet red  
Claws white  
W. 245 TL. 173 Shot 9:15 A.M. Wt. 458.5 grams  
Moult Not examined outside to avoid feather disturbance  
Abr. W/N. T/S.  
Stm.  $\frac{1}{1}$  red hard seeded fruit. Crop also  $\frac{1}{1}$  green berries.  
Sk1. ? thick but free of marks.





Sunday, 14th November 1937

Weather. Fine clear calm and sunny. Light S to SW winds, clouds 15-20%.  
Skinning and writing mail preparatory for cutter.

Monday, 15th November 1937

Weather. Fine clear call and sunny. Light S to SE winds very calm, sea clouds 10-15%.

Note. 7 P.M. - 11 P.M. Cacomantis calling much in strong moonlight of 4th day after 1st quarter. Also heard Myagra (?) call once.

Writing private mails all day.

Tuesday, 16th November 1937

Weather. Fine clear sunny calm, light S to SW airs, clouds 30 to 40%.

Noted Cacomantis calling is much more frequent and numerous. One calling in all directions up till 2 A.M. on the 16/11/37.

LOG CLOSED FOR POSTING  
On mail all day.

Wednesday, 17th November 1937

Weather. Fine sunny clear, light SE breeze, clouds 40-50%

Type Country. Native gardens and medium scrub, 15-20 ft., not very denser and semi open type bush, good deal secondary growth.

Birds. Noted all birds seemed exceptionally active and feeding and calling much, very active a full hour to hour and a half later than usual, up till 9:30 A.M., in spite of hot sun and steamers till wind commenced about 10 A.M. Usual run of birds noted. Noted 4 lemon throated Gerygones and shot 2. Note. If this lemonish bird is a separate subspecies it probably inhabits these semi open type scrubs, as one previously seen was on margin tall forest - low open hardwood scrub,





and one in low semi dense hardwood scrub. For some days have searched tall forest and found it entirely absent in that type of country. Noted several Gerygone feeding well grown and flying young. Cocomantis is calling very little this morning. Saw 1 ♀ Lichmera. Noted a call which sounded very like Philemon mimicking Coracina. Noted Aplonis has a cohabiting or mating call very like the low chatter of Trichoglossus or really near to the calls of Charmoglossus of the N.H. and it is softer and weaker than Trichoglossus.

Noted a large blackish swift, improperly sighted, which may have been C. vanihorensis ?, but very imperfect sight.

Saw one Frigata flying alone and very high over land, probably F. minor as was large and no white spots visible on abdomen.

Sk. 67 Halcyon ♂ 1 - white V.T. (.T. 6 x 3.5 RT 5 x 3 mm)  
2

Shot native garden lands, medium scrub, much secondary growth.

Has great number of parasites, and a peculiar odour, (pissy smell)

<u>W.</u> 87	<u>Tl.</u> 54	<u>Shot</u> 7:45 A.M.	<u>Wt.</u> 44.3 grams
<u>Moult</u> Nil?		<u>Abr.</u> W/V.S.	
		T/F.	
<u>Stm.</u> <u>1</u> insects		<u>SkI.</u> ?	
1			

Sk. 68 Myagra ♂ 1 + white (10 x 7.5 mm.) Adult male plumage  
1

Medium scrubs and native garden, secondary growth etc.  
Note. Has 2 white feathers at each ear covert.

<u>W.</u> 76	<u>Tl.</u> 67	<u>Shot</u> 8:20 A.M.	<u>Wt.</u> 15.6 grams
<u>Moult</u> Nil		<u>Abr.</u> W/T.N.	
<u>Stm.</u> <u>3</u> beetles		<u>SkI.</u> comp. ossif.	
4			



Sk. 69 Gerygone ♂  $\frac{3}{4}$  + white (4 x 3 mm) eyestripe yellowish

Lemon throat and unders all lemon washed.

Medium scrub, garden lands, secondary growth. Has lemon unders, shot damaged.

W. 51 Tl. 40 Shot 7:30 A.M. Wt. 6.85 grams

Moult W.R. (x) ? Abr. W/N  
T/S

Neck chin 0

Uppers 0 fuv.

Stm.  $\frac{1}{1}$  insects and insect eggs. Skf.  $\frac{3}{4}$  ossif.?

Sk. 70 Aplonis ♂  $\frac{1}{2}$  + white Tick damaged.

Tall 25-35' trees near coastal scrubs. Open type forest, little secondary undergrowth.

W. 119 Tl. 68 Shot 3 P.M. Wt. 73.5 grams

Moult Abr. Tl. slight

Stm.  $\frac{1}{1}$  fruit residue Skf. comp. ossif.

Sk. 71 Gerygone ♂ juv.  $\frac{0}{0}$  + transparent whitish

Apparently juvenile. Eye stripe yellow, throat and breast suggestion yellowish unders.

Medium scrub, garden lands coastal scrub. High up in banyan tree.

W. 52 Tl. 43.5 Shot 7:10 A.M. Wt. 7.2 grams

Moult W covs M Abr. W/T.N.

rump M back A Nape 0 Crown M

All unders C x throat and chin M.

Stm.  $\frac{1}{2}$  insects, grubs, fine white worms (?parasitic)  
Skf. not ossif.

Sk. 72 Gerygone ♂  $\frac{1}{1}$  - white (7.5 x 4 mm.)

Medium scrub, 20 ft. trees, secondary growth, garden lands (white chin and breast) (white eyebrows).

W. 53 Tl. 44 Shot 8 A.M. Wt. 7.7 grams

Moult Nil Abr. W/S

T/mixed average F.

Stm.  $\frac{1}{2}$  insects Skf. comp. ossif.





Sk. 73 Gerygone ♂  $\frac{1}{1}$  - white (7 x 4.5 mm)

Ditto above.

W. 53.5 Tl. 44.5 Shot 8:40 A.M. Wt. 7 grams  
Moult Nil Abr. W/T.S.  
Stm.  $\frac{1}{2}$  insects Sk1. comp. ossif. (?x))

Sk. 71A Gerygone ♂  $\frac{0}{0}$  + white (juv.) (Juv. white throat and

breast spec.)

Shot medium scrubs.

W. 50 Tl. 38 Shot 8:40 A.M. Wt. 6.95 grams  
Moult M covs sec M Abr. W/V  
 T/N

Tl. all. appears 2, 3, 4, 5, 1, 6)  
 or 2, 4, 3, 5, 1, 6) covs.

Uppers and under 0

Stm.  $\frac{1}{4}$  minute insects Sk1. Not ossif.

Sk. 74 Gerygone

U.S. damaged gonads.

Ditto above. White chin and throat, lemon flanks.

W. 50 Tl. 40 Shot 8:40 A.M. Wt. 6.7 grams  
Moult Nil (x) Abr. W/TV  
 T/3

Stm.  $\frac{3}{4}$  insects Sk1. comp. ossif.

Thursday, 18th November 1937

Weather. Moderate SE wind and sky strenthening and hauling east.  
 Sun and cloud few odd skaffs rain. Clouds. 20, 50, 70,  
 20%, various, traveling fast.

Type Bush. Native garden land, medium scrub, secondary growth,  
 coastal scrubs, varying underbrush but principally  
 fairly dense ferns and grass etc.

Birds Seen. Usual run bird, saw 1 Accipiter flying low and calling  
 over tree tops. 1 unidentified Cuckoo appeared smaller  
 and more reddish brown on back than Chalcites layardi.  
 Noted once darkening of sun by dense cloud Lichmera,  
Cacomantis and others calling a great deal.  
 Noted Aplonis flocking and very excited 5:30 P.M.

Partial eclipse of moon visible 8-9 P.M. Moon full,  
 8 P.M. shadow upper R. quarter to upper half.









Gerygone ♂  $\frac{3}{4}$  - white

Same area as above

W. 52.5      TI. 42      Shot 7 A.M.      Wt. 6.55 grams  
Moult    Crown 0      Neck M      Nape M  
Stm.  $\frac{1}{4}$  insects, insect eggs      Sk1. comp. ossif.

Friday, 19th November 1937

Weather. Cloudy overcast, odd patches sun, strong SE to E winds.  
 Cloud 60-80% traveling fast.

Bush. Tallish 30-40 ft. and good deal 20 ft. and underbrush,  
 coastal scrubs.

Birds. Usual run of birds.

Sk. 75 Zosterops flav. ♀  $\frac{1}{1}$  ++ O.F.E. One egg is evident

1 very large oocyte damage, 2nd oocyte 2 mm, 3rd - 2 mm.  
 Coastal scrubs in secondary levels feeding.

W. 62      TI. 48      Shot 9:30 A.M.      Wt. 13.87 grams  
Moult      Abr. W/TN  
Stm.  $\frac{1}{2}$  insects      Sk1. Comp. ossif.

Sk. 80 Aplonis (6) Considerable wing damage all around the series.

Shot 8-10 A.M. Coastal scrubs.

(1) ♂  $\frac{3}{4}$  - white UT. (Lt. 10 x 5 RT 6 x 5 mm).

(x) W. 114      TI. 64      Wt. 70.5 grams  
Moult W.R. 8.9.)      Abr. W/      aver F.-C.  
    L 8. )      with covs. TL/S  
    breast neck 0

Stm.  $\frac{3}{4}$  fruit and seeds      Sk1.  $\frac{3}{4}$  ossif.

Sk. 81 (2) ♂  $\frac{0}{0}$  O.T. Juv. Test dark red or black red.

Gape soft yellowish. Iris yellowish brown under wing

W. 110      TI. 58      Wt. 69.66 grams  
Moult Upper back 0 (general body upper and under 0 J  
 All unders 0 X sides bare patch M flanks M      Abr. W/TN.  
Stm.  $\frac{1}{2}$  banyan figs.      Sk1. not ossif.











Sk. 86 Gerygone ♂ 1 white  
4

Open grassland patch feeding in low shrubs near margin of road. All lemon unders.

W. 52      Tl. 42      Shot 5:45 A.M.      Wt. 6.6 grams

Moult W.R.8 L (x)      Abr. W/M.

T/V.M.

Stm. 3 minute insects      Sk1. comp. ossif.  
4

Myagra ♂ adult ?Gonads damaged Too (x) for skinning.

Shot tall forest, considerable undergrowth

W. 74      Tl. 64.5      Shot 7:45 A.M.      Wt. 13.45 grams

Moult W TL (x)      Abr. W/T N.

Stm. 1 beetles      Sk1. Comp. ossif.

2

Sk. 88 Zosterops (flav.) ♂ 1 ++ white (11.5 gram)  
1

Shot tall forest.

W 60      Tl. 48      Shot 7:30 A.M.      Wt. 13 grams

Moult      Abr. W/T Nil

Stm. 1 fruit, aphid insects      Sk1. comp. ossif.

4

Sk. 83 Aplonis Juv. ♂ 1 black  
4

Hardwood scrub.

W.      Tl.      Shot 7:A.M.      Wt. 71.7 grams

Moult overlooked ?      Abr. Nil

Stm. 0 fruit residue      Sk1. (not ossif.)

0

Sk. 87 Zosterops flav. ♂ 3 white  
4

Low hardwood scrubs good deal open ground. (Buffy sides)

W. 62      Tl. 49      Shot 6:30 A.M.      Wt. 12.75 grams

Moult TL (x) Nil      Abr. W/TN

Stm. 0 ants      Sk1. 2 ossif.

0

3

Myagra ♂ + - (9 x 5 mm) white

Low hardwood scrubs. ♂ ad. plumage. Broken in skinning

W. 78      Tl. 68.5      Shot 6:15 A.M.      Wt. 13.5 grams

Moult Nil      Abr. W/T VS

Stm. 1 beetles      Sk1. comp. ossif.

1



Sunday, 21st November 1937

Fine. Clouds 60%-80%. Moderate SE to E wind.

Saw one blue Demigretta.

No bird work - working on insects.

Monday, 22nd November 1937

Weather. Fine, sunny and clouds. Close and hot moderate, SE to E winds. Cloud 40-50% with light above.

Type Bush. Absolute forshore, coral rocks falling direct 5 to 10 ft. into sea, with narrow bare strip above 20 yds. or less in width, very rough. The coastal scrub 10-15 ft. with fairly dense underbrush low stunted type of ti tree scrub 1-2 ft. high.

Birds. Saw 2 blue Demigretta. 1 shot, (same time and place) a number of Tringu brivipis and Pluvialucs dom fulv., but not common. Saw Halcyons c., Myagra f., Aplonis f. Artamus common. Gerygone f. in scrub on margin of bare rocks.

Sk. 88A Demigretta 0 + black. Juv. (Blue)  
0

Fishing on rocks at half tide. Badly shot damaged.

Soft parts Iris yellow Bill black and dullish horn

Legs greenish, feet yellowish green lighter than Tarus,

Claws dark horn Under toes greenish yellow.

W. 320 Tl. 102 MTC 80.5 Shot 5:45 A.M. Wt. 560.5 grams

Moult Abr. W/T.S.

Stm. 1 crabs and fish Sk1. Thickened but 2 oval  
4 lighter patches.

Sk. 87A Halcyon ♂ 1 - white. Skin (x) but retained to show  
2 albanistic feather.

Shot scrubs at edge of coast.

W 94 Tl. 60 Shot 8:45 A.M. Wt. 45.35 grams

Moult Nil Abr. W/T nil

Stm. 1 insects Sk1. comp. ossif.  
2











Sk. 92A Pluvialus ♂ + white Common migrant.  
 Shot on coral coastal edge.  
W. 169 Il. 63 Shot 7:00 A.M. Wt. 116.5 grams  
Moult Abr. Nil  
Stm. 1 small crab and shell grit Skl. Ossif. commencing  
 4

S.P. Erythrura  
 Metal 4 nestlings unfledged (unusual) found in nest in hole  
 tag in coral rock sides, near roof of coral cave in La Roche  
 236 district. No distance in but dark entrance because of  
 Large being in cave. Nest 10 ft. above cave floor in natural  
 Beetle coral cavity few inches into entrance. Nest domed,  
 No. 1 very rough and bulky (damaged extracting) compound of  
 Birds dried ferns, grass and pandanus leaves and bark,  
 (bulky pieces) lined with long grasses and few feathers  
 and a dry moss, slight attempts at decoration with  
 kitchen possibly for camouflage. Note the blue knobs  
on gape of juveniles are luminous in the dark or  
skin light and are undoubtedly to guide parents in  
feeding.

Many birds nesting in this area at this time, numbers  
 of juveniles found from fully fledged to eggs partly  
 incubated. Bird is almost semi colonial nesting but  
 probably because of abundance of nesting sites.

Number of eggs laid, 4, 5 or 6, pur white longish oval eggs.

Wednesday, 24th November 1937

Tadine

Weather. Heavy rain, lightening and distant thunder at night,  
 23/11/37. Rain off and on during day, wind light to  
 fresh NW, clouds 20% up till 8 A.M., 40% till 10 A.M.,  
 showers, 60-80-40, 60% till 100% night.

No work, letters and skin sorting and shooting data.  
 Charts for future work.

Thursday, 25th November 1937

Weather. Dull cloudy, heavy steady rain previous night and off  
 and on during day. Wind light SW, S and strong SE  
 by 2 P.M. Clouds 100%.



Type Bush. Open native villages, gardens and main road sides close to camp.

Birds Seen. Few birds active, even between showers and only usual run of most common seen. Zosterops lat. inhabits these open type of country, several seen and 1 shot. Cacomantis not calling much. Gerygone also calling a good deal. Lichmera also noisy but not as much as usual. Philemon seldom calling.

Sk. 93 Halcyon ♀  $\frac{3}{4}$  + OSE. Diam. largest oocyte 2 mm. Breeding patch.

Shot 9 A.M. open grassland coconuts. Semi pale buff unders. Has flying ticks and strong peculiar odour. Soft parts legs and feet lighter than male

W. 89 Tl. 54 Shot 9 A.M. Wt. 47.85 grams

Moult nape crown 0 Abr. W./out from Finner S or N.  
unders 0 few mottled TL/inner F, outer N.  
cheeks chin 0

Stm. 0 insect residue Sk1. 9 ossif.  
0 10

SP Note - Has a pinkish thread worm (2" or less) parasite under the skin apparently enters at eye. Specimens put in alcohol.

Sk. 94 Halcyon ♀  $\frac{3}{4}$  -. Has parasite flying ticks.

Shot 9:05 open grassland coconuts on coastal scrub margins. Semi buff unders, has ticks and strong odour.

W. 91 Tl. 57.5 Shot 9:05 A.M. Wt. 42.85 grams

Moult Nil Abr. W/T/VS

Stm. 1 grasshoppers Sk1. 9 ossif. (as above Sk. 93)  
2 10

Sk. 95 Zosterops lat. ♂  $\frac{3}{4}$  + white

Open gardens native houses and road side. Frequents low open hardwood scrubs and gardens etc. Seldom forest.

W. 60 Tl. 46 Shot 10 A.M. Wt. 15.12 grams

Moult W.R. 6.L.6. Abr. W/N

Tl. (x) covs M T/S  
rump back M

Stm. 1 chili peppers Sk1. 1 ossif.  
2 3















Saturday, 27th November 1937

Weather. Sun and cloud till 9 A.M. Dull cloudy, fine thence on.  
Wind strong SE to E. Clouds 10% at 6 A.M. 10 A.M. 100%.

Type Bush. Coastal scrubs, native garden lands, secondary growths.

Birds Noted. Philemon calling before Lichmera before dawn. Usual run of birds seen. Noted Columba fairly numerous before sunrise near native village, (? water or feeding on fruits near village before natives about to persecute it). Heard unidentified bird, not sighted, flying quickly below tree top level in low 20 ft. secondary growth, native garden forest giving call somewhat similar to a young kid (goat) calling and running towards parent. This is second time of hearing at same hour, 5:15 A.M. before sunrise. Noted Zosterops and Gerygone and other callers all went silent as it passed. Believe it may be a hawk of some kind.

Sk. 102 Myagra ♀ 1 + OME Diam 3 largest oocytes 2 mm. breeding patch.  
♀ plumage. 1 Coastal scrubs.

W. 71 Tl. 61 Shot 5:10 A.M. Wt. 14.2 grams

Moult Nil Abr. W/N T/VVS

Stm. 1 beetles Sk1. comp. ossif.  
4

Sk. 103 Zosterops flav. ♂ 1 + yellowish-white TS 8 x 6 mm.  
1

Coastal scrubs. Native garden vegetation.

W. 60 Tl. 47 Shot 5:40 A.M. Wt. 12.09 grams

Moult Nil Abr. Nil

Stm. 1 seeds Sk1. comp. ossif.  
4

Others shot but moult unsuitable for skinning.

Sunday, 28th November 1937

Rain all day 4 or 5 inches. Wind light gusy N.E.  
Clouds 100%. Noted Frigata aril (3) swooping and catching fish themselves from sea near coast.





Monday, 29th November 1937

Rain and wind all day, wind force 6-7 in gusts E & NE fishtailing. Clouds 100% low wraith traveling fast. Hurricane centered N & W of New Hebrides

Tuesday, 30th November 1937

Rain and wind all day, wind force 6-7-8 gusts, E, NE, E. SE briefly. E, NE, NNE. 3 times during day. Clouds 100% traveling wraith. Noted up to a dozen Frigata feeding over quiet water in of island on SW side. ? species.

LOG CLOSED FOR POSTING

Wednesday, 1st December 1937

Rain and wind most of day. Very heavy rain from 5 - 10:30 A.M. Gusty showers continuous throughout day. Wind heavy and changeable. N.W. early to 10:30 A.M. changing to gusty E-SE round mid-day. Strong SE at 3 P.M. Force 6-7. Clouds 6 A.M, 100%. 10:30 A.M., 15%-25% occasionally 40%. 4 P.M. 90%-100%. Again noted Frigata feeding near coast.

Thursday, 2nd December 1937

Weather. Dull cloudy, odd patches sun. Showers off and on all day. Wind moderate SE. Clouds 50,60-100% off and on.

Bush. Secondary growth, native gardens and short 30 ft. forest.

Birds. Saw and shot one Accipiter but lost in bush. Saw several Erythrura in native gardens. 2 Myzomela ♂ ad.  
Note. Generally speaking in bush (20 ft-30 ft.) birds are rare buy anywhere a break (fallen trees) or gardens appear, they are around the margins. In the real forest those that are present feed mostly in the top leaf canopy.

Sk. 103A Lalage ♀ 1 O.V.S.E. greyish green tinge in oocytes.  
2

20 ft. trees and good deal underbush, much garden lands etc. Feeds principally on top of upper leaf canopy. Common and calls much.

W. 83 TL. 75 Shot 7 A.M. Wt. 22.7 grams

Moult TL.L.1 covs M Abr. W/S

All uppers and unders M T/F

Stm. 1 beetles and insects SkI. comp. ossif.





Sk. 103B Halcyon ♂  $\frac{1}{4}$  + greyish white.

Coastal grassland foreshore.

Has numerous flying ticks.

W. 94 TL. 57 Shot 9:15 A.M. Wt. 44.48 grams

Moult TL und. covs 0 Abr. W/TN

Stm.  $\frac{1}{2}$  insects Skl.  $\frac{3}{4}$  ossif.

Sk. 103C Chalcites ♂  $\frac{1}{4}$  -

Juvenile, foster parents Gerygone. Shot 10 A.M. Wt. 17.3 grams

More than one pair feeding. Makes low "chis-chis" call similar to young Gerygone and somewhat similar to Erythrura call.

Stm.  $\frac{3}{4}$  insect eggs. Minute insects Skl. Not ossif.

70% stomach contents pale green. eggs.

Friday, 3rd December 1937

Weather. Rain and wind off and on all day. Clouds 80-100%.  
Noted Frigata feed out to sea.

Saturday, 4th December 1937

Showers off and on all day slowly clearing. Clouds 60-80-100%. Wind SE moderate.

Sunday, 5th December 1937

Weather. Generally fine, odd sprinkles, winds light E, NE, ENE, NW and W at 4 P.M. Very close and muggy. Clouds 10% 6 A.M. 60% 9 A.M. 80% 12 A.M.-6 P.M.

Sk.104 Demigretta ♂  $\frac{1}{4}$  - black

Shot coastal rock near camp. Soft parts usual bill dark. Has white tips on tail.

W. 315 TL. 105 MTC 77 Shot 3:30 P.M.

Wt. 650 approx. X annairati unavailable

Moult W.R. 9, 10F, 23F, 24 FF, 25 FFF -) covs 0

L. ditto )sec. 0 with prin.

TL covs 0

powder down 0

Abr. W/outer prin M  
under S

TL/F

A great deal colour, abrasion on wings and body causing mottled appearance.

Stm.  $\frac{3}{4}$  1 large green tree lizard or iguana









Sk. 108 (4) ♂  $\frac{1}{1}$  - white U.T. (L.T. 9 x 6 mm R.T. 6 x 6 mm)  
W. 57 TL. 48 Shot 5:30 A.M. Wt. 12.73 grams  
Moult Nil Abr. W/V.S. TL/S  
Stm.  $\frac{1}{4}$  grass seeds SkI. comp. ossif.

Sk. 109 (5) ♀  $\frac{1}{1}$  + O.M.E. breeding patch (several oocytes  
 2 mm to 1-8 mm diam).  
W 57 TL. 45 Shot 5:30 A.M. Wt. 13.7 grams  
Moult Nil Abr. W/TN  
Stm.  $\frac{1}{1}$  grass seeds SkI. comp. ossif.  
 flower seeds  
 crop  $\frac{1}{1}$  full

Tuesday, 7th December 1937

Weather. Clear, sunny and cloudy after rain all night. Wind light SE, clouds 50%.

Type Area. Open coastal grasslands near village and coastal scrubs.

Birds. Saw 1 blue Demigreeta. Usual run of birds. Note Collocalia esculenta urggypalis hawks low and very low and not very frequently into big open spaces. Collocalia spod. levoop. hawks high over tree top to left of ground and often lower generally 4-10 ft. or 30-40 ft. and much over big open spaces.

Sk. 110 Collocalia spod levoop. ♂  $\frac{3}{4}$  + white (4.2 x 2.2 mm)  
 Shot hawking high over open grasslands.  
 Has lice on wing primaries. Specimen very fat.  
W. 106 TL. 45 Shot 9:30 A.M. Wt. 9.08 grams  
Moult W.R. 5, 6L, 5, 6 covs sec. M  
 TL. covs 0  
 All uppers 0 x back, M nape, crown C  
 All unders 0 x breast C  
Abr. W outer 4 prim V.M. inners N  
 TL. miscel. aver M x L2 R2, Nil  
Stm.  $\frac{3}{4}$  insects SkI.  $\frac{1}{3}$  ossif.





Sk. 111 Halcyon ♀ 1 ++ O.V.M.E. Breeding patch diam largest occs -  
 1 1-3.5 mm  
 Shot coastal vegetation. 2-3.25  
W. 94 TI. 59 Shot 11:45 A.M. 3-3.  
Wt. 46.45 grams 4-2.75  
Moult Abr. W/T Mi. 5-2.5  
Stm. 3 insects Sk. 1 ossif. 6-2.5  
 4 2

Nest Found 1 Myagra nest; 2 very young nestlings, both ♀ 0  
 No. 1 0  
 Nest placed in low horizontal fork of small tree within  
 4 ft. 6" of ground in tall forest.

Sk. 112 Collocalia spod. levcop. ♀ 1 +  
 2  
 Shot same place as above. Breeds in caves (said by  
 natives)  
W. 111 TI. 46 Shot 9:40 A.M. Wt. 8.5 grams, very fat  
Moult W.R. 6. L6. covs sec C Abr. W/F  
 all uppers 0) few T/S  
 all unders 0)  
Stm. 1 insects Sk. 1 ossif.  
 2 2

Sk. 114 Collocalia spod. levcop. ♀ 1 -  
 2  
 Shot open grasslands coastal.  
W. 113 TI. 49 Shot 10:10 A.M. Wt. 9.5 grams  
Moult W.R. 7,8, L. 7,8 covs sec. 0 Abr. W/T V.S.  
 uppers 0) few  
 unders 0)  
Stm. 1 small beetles insects Sk. 1 ossif.  
 1 2

Sk. 113 Artamus ♀ 1 - O.C.E. diam. larges occ. 2.75 mm.  
 1  
 Coastal scrubs.  
W. 130 TI. 67 Shot 11 A.M. Wt. 41.25 grams  
Moult Wing covs. M Abr. W/T Nil  
 Lower back M  
Stm. 1 insects Sk. comp. ossif.  
 1



Sk. 115 Collocalia escul. uropy. ♂  $\frac{1}{4}$  + black

Fairly common all over area. Hawks low and amongst vegetation mostly. Seldom in very open country.

Has lice on wings.

W. 99 TL. 40 Shot 9:15 A.M. Wt. 6.7 grams

Moult W.R 8

uppers 0) few  
unders 0)

Abr. W/T V.S.

Stm.  $\frac{1}{1}$  minute beets and insects Sk1.  $\frac{1}{4}$  ossif.

N.B. This specimen had just caught a small wasp which was carrying off a caterpillar, still in mouth at killing.

Sk. 116 Collocalia escul. uropy. ♀  $\frac{1}{2}$  -

Ditto above.

W. 98 TL. 38 Shot 9:50 A.M. Wt. 4.85 grams

Moult L.W. (x) Abr. W/T VS

TL (x)

Stm.  $\frac{1}{1}$  minute insects Sk1.  $\frac{1}{5}$  ossif.

Wednesday, 8th December 1937

Weather. Sun and showers, thundery weather. Clouds 60-80%.

Type of Country. Volcanic peak (very low) which was probably the base on which all the coral formed which composes the island. Soil of actual small low hills on which Rawa village is situated, is a red volcanic loam, similar to much of Tanna Is. in New Heb. and surrounding it for a small area is an admixture of coral and volcanic soil, undoubtedly volcanic soil and base is very near the surface for some distance to the south of the low 50 ft. hill as in that direction appear outcrops silica and traces of chrome and nickel and copper. To the north east the country seems to become coralline almost immediately but due north a volcanic strip is found, west and east of the area is pure coralline.

*Drawing*





In the area NE of the village is a fine example of a collapsed cave (sec. summary Rawa).

Types of Bush. On volcanic soil vegetation is very much denser and taller and a good deal similar to Tanna but except in the southern part which is very rocky, no original bush is left as natives have cultivated the area intensively. Original bush on almost pure rock is tall 40-60 ft., many banyans and scanty underbrush of ferns etc. Good deal secondary 20 ft. trees and shrubs. Cultivated parts are secondary growth scrub and good many fruit trees, rose apples, breadfruits etc. and a lot of coffee and native garden fruits, bananas, paw paws, yams, etc.

In coralline areas, forest is 20-30 ft. and fairly dense with ferns underneath similar to Tadine. Anywhere free of rock is cultivated or covered with a low scrub in one of the 3 or 4 stages of rotation practiced by local gardeners. The whole area except in the NW and eastern grassland plains is pretty densely populated and consequently much of the area is in cultivation. A 5 to 7 year cycle rotation seems to be generally practiced so growth on these cultivation areas seldom reached more than a 10 to 15 ft. scrub as soil is shallow and area dry and consequent growth is slow.

Birds. The general run of birds is the same as Tadine area, but Erythrura is much more numerous. Accipiter is fairly common around gardens and in forest. Circus on the grassland plains. Coracina is not so common nor is Aplonis but the latter is still very common. Columba is very common, as is Ptilonopus. Chalcophaps is more common especially in forest and margins of cultivations. Poryphrio is present (reported) but none seen or heard.

Sk. 117 Myagra ♂ sub ad.  $\frac{3}{4}$  + white

Shot 3 P.M. 20 ft. forest ♀ plumage, large black mark on rufous of chin-neck.

Note. See Sk. 60 page 103. There is no question about the sex of these 2 birds having been wrongly taken as both have advanced gonads. It is evident both sub ad. ♂ + ♀ show this mark at times. This is possibly connected with the characteristic shown in on all black ♂ ad. got by me on Erromanga, New Heb. and it is possible an all black may be found on Mare. Strangely I found no ♀ showing black marks on Erromanga.









Sk. 119 Accipiter ♀  $\frac{1}{2}$  + 0.S.E.

Near village in native garden lands, perched on coconut, stalking domestic chickens.

W. 288 TL. 224 Shot 1 P.M.

Moult W covs 0 Abr. W/S

W (x) T/F

Stm.  $\frac{3}{4}$  large green locusts (coconut leaf eating insects)

Sk1.  $\frac{9}{10}$  ossif.?

Native name MAH RUPE (MAH ROOP)10

Sk. 120 Erythrura ♀  $\frac{1}{1}$  0.V.S.E.

Roosting large dark green (Eritrene) tree. 6 P.M.

W. 57 TL. 44

Moult Nil Abr. W/T N

Stm.  $\frac{1}{1}$  grass seeds Sk1. comp. ossif.

Crop  $\frac{1}{1}$  seeds

Native name

Friday, 10th December 1937

Weather. Very hot, sun and cloud, close thundery weather. Clouds 6-12 A.M., 20-30; 1 P.M., 3 P.M., 4 P.M., 40, 30, 40%.

Bush. Low secondary growth on cultivation and original low 20 ft. forest stag fern underbrush on shallow soil and solid rock north of Rawa.

Birds. Saw 2 Accipiter, 3 Circus hawking over more open types of country. Heard in coastal scrubs what may have been a Turdus breaking snails but as Aplonis also does this and they were more common in the area it was possibly one of the latter. We spent the greater part of the day searching a small area between La Roche Tantine road and the sea where the bird was reported to be more common than elsewhere but failed to find or see a single one. Evidently Turdus is very rare. I noticed a native clearing has been on areas previously suitable for Turdus and believe this clearing is responsible for most of the disappearance if it was common. (See notes at end of Rawa). Zosterops lateralis seen feeding on paw paw in native gardens. Columba is very common probably because banyan and suitable food trees are





more common and fewer natives have guns. Porphyrio is reported to be present but none were seen nor any signs. Natives report it is commoner in the south of Mare.

N.B. Collocalia spod. lucopygia nests in colonies in caves in the coastal cliffs in this area. The caves are high and nests were out of reach but by making a fire big smoke a number of juveniles were captured but all but one were too damaged in catching for skinning. Will return later and try and get Tyto seen and shot after dark on route from La Roche to Rawa.

Sk. 120A Zosterops lat. ♀  $\frac{1}{1}$  ++ O.F.E. Egg in oviduct 9 mm. diam.  
Breeding patch.

Shot feeding on paw paw in native garden. Hoainide.

W. 61 Tl. 49 Shot 7 A.M.

Moult W.L. (x) Abr. W/T N

Tl und covs 0

Stm.  $\frac{1}{4}$  seed and fruit SkI. comp. ossif.

Sk. 121 Tyto ♀  $\frac{1}{2}$  + O.V.S.E.

Shot perched in bare dead (burnt) tree of garden lands 1/2 hour after sundown. Moon 1st quarter on route La Roche-Rawa.

Soft parts Iris very dark brown or black, Bill white horn, Legs and feet dirty white, Claws dark horn.

Specimen very thin.

W. 270 Tl. 108

Moult Nil Abr. W/T N

Stm.  $\frac{0}{0}$  empty

SkI. 2 very minute and far back patches clear and thin looking but skull comp. ossified.

Saturday, 11th December 1937

Weather. Clear and sunny, very hot, after rain at night. Clouds 8 A.M., 20%; 9 A.M., 30%; 12 A.M., 40%; 1 P.M. 80%; 3 P.M., 60%; 5 P.M. 20%.

Bush. Tall forest and native garden on volcanic soil, low scrubs and grasslands on shallow coralline soil. Lantana gant and low 20 ft. forest of Tadine area. Coastal scrubs.





Birds. Note Chalcophaps is more common in tall forest. Saw 2 Accipiter, both adults, 3 Circus all on open grass lands. Numerous Columba. Saw and shot 1 Tyto which was perched in a low shrub within 5 ft. off ground in a small clump of half a dozen such shrubs in centre of open grassland plain some square miles in extent, low sparse shrubs 2 ft. and grassland and ferns, much subject to fires by natives. Saw Artamus attacking Circus. Saw 2 juvenile (or female) Myzomela and shot both but lost one in lantana scrub. These are the first 2 (other about 8 ♂ adult) Myzomela seen on the island in 8 weeks.

Sk. 122 Tyto ♀  $\frac{3}{4}$  - O.S.E.

Shot 1 P.M. open grassland plain perched in low shrub in center of extensive plain. W. centre of Island south of Rawa. Shot on truck and skinned enroute not examined.

Sk. 123 Myzomela sub ad. ♂  $\frac{1}{4}$  - white

Feeding in lantana gant in W. Tadine area. 2 seen during day, first 2 other than ad. ♂ seen in 8 weeks on Mare. About 8-10 ad. ♂ seen in that time. Not examined skinned enroute.

Stm.  $\frac{1}{1}$  minute insects Sk1. not at all ossified.



Summary Rawa Area (Cont.) 8-10 December 1937

This area roughly 5 miles by 5 miles contains what is probably the original (or one of the original) peaks of the island around which all the coralline area has formed. This is a small volcanic hill standing about 100 ft. above the surrounding plains, but 50 ft. is gradual rise of mixed coralline and volcanic soil and rock and a small central knoll of 50 ft. pure volcanic soil about 150 acres in extent. There is a trace of an old crater but the erosion has been heavy and this has almost disappeared. There are few signs of bombs or lava so the cone could not have been long active. In the south of this area an extensive outcrop of rock, mixed coral and base reefs occurs, much silica being present, traces of copper, chrome and nickel, are visible. South of this again are extensive coralline plains stretching to the south of the island, having areas of extensive grasslands, low stunted scrub, and 20 ft. forest with much ferny underbrush. To the east of the volcanic area it is pure coralline stony plains mostly grass and fernlands, much subject to fires by natives and a low 10 ft. scrub. West of the volcanic strip is another coralline area not so rocky with a denser 15-20 ft. scrub forest. Along the north coast are cliffs which show the 3 distinct volcanic lifts to which the island has been subjected. The first appearing as islands of rock, probably at one time the chain of atoll island visible as at present on Uvea island, 2 other distinct lifts of about 100 ft. each show along the sea face cliffs. These cliffs contain many caves. The greater part of the area, (the plains) are about 200 ft. above sea level and the peaks coralline and volcanic (Rawa) about 100 ft. higher.

Vegetation. Much of the area probably 50% is under cultivation or in rest between cultivation. 30% is open grasslands growing ferns and grass and a few low stunted shrubs, and 20% is 20 ft. forest. A small area 5% in the south of the volcanic strip being too stony for cultivation is in original bush, tall 40 and odd 60 ft. trees with scanty underbrush.

Coraline area only. Throughout all the area in forests or grassland small areas, a few acres and less in extent appear which carry a very scanty stunted scrub and moss. They appear very sterile and hungry. I believe these areas show the presence of underground caves, water being able to drain very rapidly away.

The scrub is stunted and being a rock arch roots are bound. Elsewhere in almost pure coral rock the bush is not stunted but grows to 20 ft. so often a scanty soil on it but this is always dry except immediately after rain and even then it rapidly becomes dry. These sterile areas very often have a hollow sound.





When crossed by humans or animals and even natives' bare feet resound on them. Near Rawa one such area appears in which the cave roof has collapsed and shows this very well. Birds use these places as nesting sights and they are the source of their drinking water as the stalagmites which are formed drip water which I have actually seen birds drinking. (See individual species notes).

*drawing.*

### Individual Species Notes

- (1) Accipiter fas. vig. Appears fairly common in area. Frequents scrubs, garden lands and native villages, does not appear to favour more open types of country. Attacks and devours many native domestic fowl chickens. Does not strike from wing, perches in tree for long periods till forgotten by victims then swoops and strikes from short range. Of numbers seen by me all appeared to be adults but this is hard to be sure of at any distance. Native name Mahroop or Marroop.
- (2) Hypotaenidia phil. swind. Said to be present, none seen or heard.
- (3) Porzana taxbuensis Said to be present but rare, said to be common in south of island. A young rail brought by a native may have been fledgling of this but collector was uncertain of parentage. Possibly it was P. tabun.
- (4) Porphyrio albus caled Said to be present but not very common. Eats a good deal of native corn (maize) and native garden products. Is found only in and about native gardens.
- (5) Ptilinopus greyi Common native gardens and forest.
- (6) Columba vit hypoench Common all over area except coastal strip.
- (7) Chalcophaps indica sand. Fairly common and seems to favour forest areas.
- (8) Cacomantis pyrr pyrr Fairly common but not as common as in Tadine area. Possibly parasites Lalage, does parasite Rhipidura.





- (9) Chalcites luc. lay. Common in more open types of country.
- (10) Tyto alba lulu Common in area. Several heard calling, perches much in caves and probably nest there also, many feathers seen on cave floors. Hunts much at night over open grassland plains.
- (11) Collocalia esc. urop. Common in area, nests in collapsed caves, caves and amongst roots of banyan trees. Hawks low in forests along roads and in open grasslands.
- (12) Collocalia spod leuc. Common in area. Nest in caves along sea cliffs and probably elsewhere. Some specimens of young taken by heavy smoking of cave with fire but roof too high for closer examination of nesting sites. Is colonial nester. Hawks higher than C. esc urop. and favours open types of country, hawks over tree tops in forest areas. Seldom or never below tree top level (which C. escul. urop. often does).
- (13) Collocalia vanihorauisis van. Said to be present but none were seen.
- (14) Halcyon chloris canae Common all over area.
- (15) Lalage leiu simil. Very common all over area.
- (16) Coracina cal. cal. (Introduced) Common, principally inhabits native garden areas and forest. Not as common as Tadine area.
- (17) Rhipidura spil. voireux Not very common but is present in forest areas and low scrubs.
- (18) Turdus pol. mare Was once common in area but 2 days of intensive searching failed to reveal a single one. Once heard a bird tapping snails but this may have been Aplonis. Saw one or two heaps small snails which may have been made by Turdus. An old and intelligent native who remembered them as common 25 years ago (before big fight, i.e. Great War) said he thought an increase of ships' rats was responsible for its decrease. I doubt this as the local rat has held his own on Mare, whereas on Erromanga in the N.H. the ships' rat has almost exterminated the indigenous rat and is much more numerous on that island yet Turdus is common there. This is also true of Tanna in the N.H. Personally I believe the native himself is responsible for its extermination directly and indirectly. Principally through his gardening he has destroyed its feeding areas. Under the old





system of gardening 2 acres was all even the largest families cleared, 2 acres of 1 year old garden area making 4 acres under actual cultivation and a 7 year cycle rotation allowed scrub ferns to grow which harboured food for Turdus. Nowadays with the demand from Noumea for vegetables, the natives often clear 4 and 5 and more acres, a chief often having 20 and more acres under cultivation for a single year, and the same under 1 year old cultivation (bananas, pineapples etc.). Also the natives needing money for taxes and luxuries they plant coffee and coconuts in these old garden areas and especially in the case of the latter this ground is put out of use for gardens for many years and is kept clean and clear of weeds, ferns etc. and so is useless for Turdus. As the best garden lands and Turdus lands coincide Turdus has been driven on to the rocky cliff faces of the coast which is the only place the natives now say they see it, whereas it was once common right in Rawa village. Also the natives are very fond of it for eating and with guns and small boys elastic shagghies (stings) no doubt account for a fair number per annum. I have no doubt I shall have great difficulty getting even one or two of this species which on all of Mare (Tadine, Rawa) so far worked over is definitely approaching extinction. It was once common in both areas 30 years ago or less.

- (19) Myagra cal. mel. Common all over area except open grasslands.
- (20) Gerygone flav. flav. Common in forest and taller types timber of native gardening areas. Is replaced by the smaller all yellowish under (? Gerygone rousu) in the low stunted scrubs in 1st and 2nd year growths on old garden lands.
- (21) Artamus leich melal. Common all over area especially margins forest and grasslands.
- (22) Aplonis strait. atron. Common especially in native garden lands, nest in old dry trees (hollows) of burnt large trees and fruit trees, rose apples, breadfruits, etc. and common along coastal cliff areas.
- (23) Philemon lessoni Not very common but fairly numerous in tall forest in south of volcanic area.
- (24) Lichmera incana incana Common all over area where there are coconuts.
- (25) Myzomela card lif. Very rare. Few in tall forest and around flowering native fruits, rose apple and Eritrene trees principally.





Zosterops flav. ? Common in the taller and denser scrubs in native garden land margins and anywhere in fairly dense scrub.

Zosterops lat. Common in open types of scrubs and native garden lands and grasslands. Feeds on native foods and much of low shrubs, paddies lucerne. (*Sida retusa* and *sida rhombifolium* L.) in old 2nd year gardens which are in seed

Erythrura trich yan. Common over nearly all the area. Nests in caves and collapsed caves. In holes in coral fans and amongst coral boulders. Roost in dark green foliated trees such as Eritrene (cocoa mother) oranges and mandarin trees. Is nesting at present time. Fully fledged (coral tree) to fresh eggs found. Nest bulky grass and fibres, lined with grass, moss and few feathers. Favours dry pandanus fibres and leaves.

Circus approx. wolfi Common over open grassland and occasionally flies over forest lands but generally favours open country and extensive areas of native gardens.

Hirundo tahi subf. Common in all volcanic area except tall forest. Fairly common in open types of country grasslands etc. in coralline areas.

Pluvialis dom. ful. Common on grassland plains. (Migrant)

Sunday, 12th December 1937

Returned to base camp at Tadine.

Weather. Sun and showers, thundery weather, clouds 10-80%, maximum 3 P.M. Wind light and variable SW/S/E/SE/S/N/W

Monday, 13th December 1937

Weather. Sun and showers, thundery. Winds light and variable W to S to SE to NE. Clouds 0-80%, maximum 2 P.M.

Bush. Coastal scrubs.

Sk. 124 Myagra ♂  $\frac{3}{4}$  white sub ad.

Female plumage. 1 black feather on chin.

Shot 7:30 P.M. Wt. 14.37 grams

Stm.  $\frac{1}{1}$  insects Sk1. comp. ossif.





Sk. 125 Cacomantis ♂  $\frac{1}{2}$  UT white (LT  $\frac{3}{4}$  - RT  $\frac{1}{2}$  -)

Common in area, at present in heavy moult. Parasites Rhipidura and other spec. possibly Lalage  
Soft parts Iris red, bill black, legs and feet  
 yellowish tan claws black.

W. 147 TL. 135 Shot 9 A.M. Wt. 46.55 grams  
Moult upper back C neck 0 Abr. W/T ?  
 lower back 0 breast C  
Stm.  $\frac{1}{2}$  caterpillars Sk1.  $\frac{1}{2}$  ossif.

Cacomantis ♂  $\frac{1}{2}$  + white U.T. (RT  $\frac{3}{4}$  RT  $\frac{1}{2}$ )

W. 144 TL. 105+ (moult) Shot 9:15 A.M. Wt. 46.65 grams  
Moult TL: all X R.5F moult seq. seems to be R,5,1, 4,  
 3,2, L,5,2,3, 4.1.  
covs. all Abr. W/N  
 lower back A upper back 0. T/?  
Stm.  $\frac{1}{1}$  caterpillars Sk1.  $\frac{1}{2}$  ossif.

Sk. 125A Rhipidura ♀  $\frac{1}{4}$  + sub ad. Juveniles, common adults

rare and in full moult at present.

Coastal scrubs. Some white, some buff wing spots

W. 70 TL. 89 Shot 7 A.M. Wt. 10.3 grams  
Moult Nil Abr. W/TN  
Stm.  $\frac{1}{2}$  insects Sk1. not ossif. ( $\frac{1}{10}$  ossif.)

#### NESTS AND EGGS

1 Cigarette tin (50 size) Hills Gold Flake marked Egg No. 1

#### Contents

- (1) Columba vitiensis hypoenochroa single large white egg  
 10th December 1937

Data Egg perfectly fresh not at all incubated. 10/12/37  
Clutch 1 sometimes 2.  
Nest usual scanty pigeon platform.  
Situated 12 ft. up on end of horizontal limb in  
 20 ft. tree in 20-25 ft. forest over fork.  
 No attempt at concealment but with clear  
 field for silent flight.



General notes Nest with fresh eggs and young and young fliers are present at this time of year so breeding season is over a long period. I saw well advanced fledglings in October and fliers in same month. Length of incubation period unknown.

- (2) Erythrura trichroa cyaneifrons 6 eggs small white, 10th December 1937.

Data Eggs. 3 blood veims forming 1/8 incubated. 3 dead fresh, 1 broken in transit.

Clutch. 2, 3, 4, 5, 6. In this case it appeared as if 2 ♀ may have been using the same nest but this is hard to state definitely as ♂ and ♀ are indistinguishable in field. Also this species has a habit of going in small flocks. 3 were using or visited the nest.

Nest. Bulky, loosely built domed nest, falls to pieces on removal, fibres (pandanus, etc.) lined with grass and a few feathers.

Situated in a cavity in rock, in cave sides or roof in cliff faces in large boulders or amongst stones on the ground. May possibly occasionally use a hollow tree spout but no proof has actually been seen.

General Notes In this nest on the 5th there were 3 eggs, by the 10th there were 7 eggs. Incubation is 11 to 13 days (approx. guess). In this nest there were 3 birds visiting it, but one may have been a juvenile from previous year as this is a habit of these birds, like the wrens of Australia. It is possible this species is polygamic but from observation in shooting, I am more inclined to think the surplus are last year's young (vide specimens shot Tadine 6th December 1937 page 123). Also there seems to be a preponderance of ♂ in this species. A curious thing is that although this bird generally lays 6 eggs, it is seldom one sees more than 6 in a family group, yet addled eggs are seldom found left in nest but these may be removed or destroyed. I think it more probable the stronger ones survive (and eggs if addled broken when they enlarge) and seldom more than 4 are reared. Yet note difference of incubation in this clutch. In a number of cases I found 1 case 2, 1 case 3, 4 cases 4, young in nest and noted in case of 4 there was room for no more. At entrance





of nest there is a regular pad of excrement evidently young do not foul nest. They have lice on them. Balls at gape are luminous in dark, no doubt for feeding purposes. Call of young can be simulated by drawing breath through lips and teeth with lips drawn back and tight across teeth.

- (3) Zosterops (flav.-?) = xanth 3 small pale blue eggs  
10th December 1937.

Data 3 eggs all quite fresh.

Clutch 3, 4, 4 in this clutch, 1 broken in transit. Another clutch 3/4 incubated, examined same day 4 and ditto 3.

Nest Fibres and grasses, decorated moss etc. in small fork 4 ft. from ground in Eritrene tree. Specimen nest No. 2 included in collection.

Situation Similar to all other Zosterops on low bushes, shrubs, trees, oranges, etc. well disguised and hard to locate while still in use but commonly found when left by birds.

General notes Appears very similar to other Zosterops all ways.

#### Rawa Area

- (4) Nest No. 2 goes with above clutch of eggs, placed 4 ft. up in low Eritrene (cocoa mother) tree, old garden fence post which has sprouted. Zosterops (flav?) possibly minuta or possible new sub. spec.
- (5) Nest No. 3 Ditto above species but placed in low stunted shrub 5-6 ft. from ground. Native garden lands.
- (6) Nest No. 4 Collocalia (Esculenta uropygialis) found amongst staligmites in coralline cave. Is colonial nester. Often nests amongst banyan tree roots and in hollows of large trees.

Tuesday, 14th December 1937

Weather. Sun and showers, hot and close, thundery, wind light and variable from all quarters except S. Clouds from 0% 6 A.M. to 90% 3 P.M.; 5% 6 P.M.

Sorting Rawa material and arranging equipment for further work in that area.





Wednesday, 15th December 1937

Weather. Sun and showers, more rain than previous day. Hot, close and thundery. Clouds 5% 6 A.M. to 100% 3 P.M. Same as previous day. Winds light and variable from all directions except North to West. Principally light SE wind.

Sorting spirit material from Rawa area at Tadine area.

Sk. 126 Accipiter ♀ 3  
GS 4

Shot coastal scrubs, fairly dense, awaiting chance to attack domestic chickens.

Adult plumage transverse bars

Legs and feet yellow.

Soft parts usual, hood over eye prominent greenish yellow.

Approximate W. 285 TL 218 Shot 6:15 P.M. Wt. 259 grams approx.

Moult Nil

Abr. W/T S

Crown M

Stm. 1 remains domestic duckling

Skl. comp. ossif.

2 bill, skull, feet and down.

Has winged parasites.

#### Accipiter Notes

On edneityum Accipiter was nest July, August, if in nest here in the same months juveniles should be well advanced now and numerous, yet this is the 3rd adult in 3 so far shot, and as nearly as distance guesses allow I have not seen a juvenile so far. Enquiry from natives seems to bear out the same thing. Are juveniles rarer on Mare? If so why? What previous observers have noted the juv. preponderance?

Thursday, 16th December 1937

Weather. Fine sun and cloud, light E to NE winds. Good deal of haze from 10 A.M. to 5 P.M. Clouds 20% - 80%.

Shift to Rawa Camp.

Friday, 17th December 1937

#### Rawa District

Weather. Fine sun and cloud, light E to SE winds later NE. Fairly hot. Clouds 20 - 80%.



Sk. 127 Tyto ♀ 1 - repose  
2

Caught in deserted doorless native dwelling.

W. 279 TI. 112 Captivity 24 hrs. Wt. 252 grams

Moult TI up covs M Abr. W/T N

lower back M

lower belly, flanks, breast 0

Stm. 0 empty

Sk1. comp. ossif.

0

Tyto ♂ 1 -  
2

This bird has very few spots under - (5) only

W. 283 TI. 116 Wt. 304.9 grams

Moult W.R. 6. 15. 21) covs M sec. with prim.

W.L. 6.15 )

TI.R. 6F) covs. M

L. 1.6 )

All uppers, unders M.

Bird too badly moulted for skinning.

Saturday, 18th December 1937

Weather. Fine, clear and sunny. Light easterly winds. Cloud 60% - good deal of haze above.

Types Bush. Original forest 40 ft. trees, 30 ft. trees and good deal ferns and underbrush, low marginal scrubs 10-15 ft. great deal ferns and underbrush. Native garden land in all stages from cultivation to 7 year fallow. Open grassland plains.

Walk to south and east of Rawa village around to La Roche and return.

Birds Noted. Said to be numbers of Turdus in this area but no sign or birds seen. Natives claim it inhabits the intermediate scrub between forest and open grasslands but none were seen by observers. Circus is fairly numerous over open grassland and native cultivations. Accipiter is common in native cultivations perching in dry trees left in gardens, attacking native fowls etc. Other birds are much as elsewhere. Cacomantis not being very numerous. Nor is Rhipidura. Hypotaemidia is present in fern patches on margins of grasslands and in native 2nd year cultivations. Natives say both a black rail (Poryana taubensis?) and a small rail (Poryana cinnineria?) are present, none seen by observers.





Sk. 128 Hypotaenidia ♀  $\frac{3}{4}$  O.S.E.

Caught by native dogs in fern breaks. Specimen very fat.  
Soft parts usual as in New Hebrides.

Wt. 159 grams Shot 4 P.M.

Moult W. up covs. 0 Abr. W/T ?

Tl. R. 3 covs. C

lower back M up back C

belly 0 flanks M neck M breast M

Stm.  $\frac{1}{1}$  snails, seeds, roots? Sk1.  $\frac{1}{2}$  ossif.

Sk. 129 Hypotaenidia ♂  $\frac{3}{4}$  white (damaged)

Ditto above. Wt. 220 grams (tail damaged)

Moult Tl covs. 0 Abr. W/T ?

back, nape 0

breast 0

Stm.  $\frac{1}{1}$  beetles, molluscs Sk1.  $\frac{1}{2}$  ossif.

Sk. 130 Hypotaenidia ♂  $\frac{3}{4}$  + white (17 x 9 mm)

Caught by dogs in fern breaks. 4 P.M.

Wt. 186 grams

Moult Tl. R. 2, 3.) covs. C Abr. W/T ?

L 3, 4, 5, 6.)

back 0 nape M

breast C neck M

Stm.  $\frac{1}{1}$  black beetles (seeds?) Sk1.  $\frac{3}{4}$  ossif.

Sk. 131 Hypotaenidia ♀  $\frac{1}{2}$  + O.S.E.

Ditto above.

Wt. 155 grams

Moult Tl up covs. 0 Abr. W/T ?

Stm.  $\frac{1}{2}$  insects and black gravel Sk1.  $\frac{9}{10}$  ossif.

Sk. 131A Accipiter ♀  $\frac{1}{4}$  + (shriveled) Has trace of right ovary.

Native garden lands.

Specimen much abraided and of little taxidimic value  
except to show extent of abrasion. Specimen very very  
thin, possibly sick.

W. 270 Tl. 205 Wt. 265 grams Shot 4:30 P.M.

Moult W. R 8) Abr. W/T V.M.) much colours abrasion on

Tl. Ri. Li. body V.M. ) back and unders.

nape crown C

Stm.  $\frac{0}{0}$  empty Sk1. comp. ossif.





Sunday, 19th December 1937

Weather. Fine clear sunny very hot and close, thundery, clouds 10-20% to 80% at 2 P.M.

Skinning animals all day. Late afternoon walk to garden lands looking for Porphyrio, none seen or heard.

Monday, 20th December 1937

Weather. Very hot and thundery, clouds 10% to 80% at 3 P.M. Walk all along northern coast in search of Turdus, not a single one seen or heard in morning or up till dark, which considering Turdus habit of calling much, going to roost makes it appear to be absent or very rare. Several times noises like snails being broken such as Turdus makes were investigated and proved to be Aplonis once, Coracina twice, twice hermit crabs with snail shell crawling and dropping over rocks.

Heard again unknown bird flying rapidly through bush and calling. This same as at Tadine. This is probably Accipiter but the bird (smaller than Accipiter or Falco and not as dark as Falco) which attacks fowls in the La Roche district, but claim the large stone hill behind La Roche is its only habitat. I cannot place this bird and it may only be fable. Considering it is not supposed to be at Tadine I think this bird I have heard calling is Accipiter. In passing it is worthy of note that on Aneityum natives speak of a small fierce grey hawk.

Tuesday, 21st December 1937

Weather. Calm very hot thundery. Clouds 10-20% to 100% 12 A.M. Rain previous night.

Collocalia spod leuc. Examined nesting colony of this species in caves north of La Roche. 3 caves and colonies examined. All had very small entrances in sheer cliff face falling to sea and about 30 ft. above sea level. Caves are very extensive and run far back and open into each other and into further caves. Collocalia nest well in where it is dark and very few near entrances. Young fully fledged and 1 fresh egg taken so nesting lasts over considerable period. (Nest samples taken and 1 fresh egg). Nests are on small ledges and cavities in cave





roof and sides, very verminous and much guano on floor under nest sights. Most nests about 20-25 yds. in narrow cave 14 ft. high 5 ft. wide with irregular sides. Nest on ledges placed very close and touching, often impossible to remove one without the other as glutinous saliva cements nest together. Egg 1, pure white long oval.

Searched rock behind La Roche for rare hawk and Turdus but found neither. Many Tyto nest in caves and cavities of this rock, as do Collocalia escul uropyg and C. spod. leucop.

Sk. 132 Zosterops lat. ♂ 1 - white  
1

Native garden lands. 4:30 P.M. Wt. 14.73 grams  
Sk. comp. ossif. Stm. 1 ants  
Moult not examined. 4

Eggs. Hills Gold Falke Cigarettes tin  
Numbered Eggs No. 2.

#### Contents

(1) Collocalia spod leuc. 1 egg white long oval 21st Dec. 1937

Data 1 egg perfectly fresh

Clutch Invariably 1 only.

Nest Shallow cup much flattened formed of causerina leaves (like pine needles) fibres (cobwebs?) (moss?) cemented together with saliva. Always very verminous.

Situations On small ledge, in hole or outjutting knob in cave in coral limestone. Situated well back from entrance, which is often very small, in almost total darkness. Many nests huddled close together and joined together if there is sufficient room on the ledge. Odd nests singly where only room for one but part of the colony. Much guano present on cave floor below nest sites.

General Notes According to natives in some places in caves Hurundo nests near the entrance in fairly light situation, C. spod leuc. further in in dark. In this cave bats were very very numerous further in. The cave extended for a great distance and opened into other caves and clefts, many really fine stalagmites and other formations present. I examined caves. One with a colony of about 80-100 nests, one with 30-40 and one with 10 or a dozen, all communicated with each other. I saw other inaccessible and bigger colonies in other caves both in sea face cliff and in a coral island sheer face in original island uplift hill. The 3 caves





examined all opened into the sea fan cliff at about 20-30 ft. above high water, no entrance more than 4 ft. square and 2 a good deal less.

*inspiring*

I found 1 fresh egg and numbers of addled ones, possibly parents killed by hawks etc. and young from unfledged to fully fledged and capable of flights of short distance. Imagine young do not fly till well advanced or many would perish in the sea. Birds are silent in colony, young make a small noise on arrival of parents. Few adults visited in cave during a lengthy stay.

Collocalia escul. uropyg. also nests in the upper hill caves behind La Roche but generally speaking they use smaller cavities in the rocks where there is more light. C. spod leuc. evidently needs darkness and deep caves.

(Sample 3 nests taken with 1 egg above. Tags attached to nest. Numbered nests (5))

- (2) Chalcites lucidus layardi 1 egg dark brown. 19th Dec. 1937  
Data 1 egg 1/8 incubated, blood veins showing.  
Clutch 1 parasited on Gerygone on its own, no Gerygone eggs present.  
Nest Gerygones (see next page)  
Situation In orange trees.  
General Notes See Gerygone next page  
 Note. Brown colouring rubs off if wet with finger.
- (3) Chalcites luc. lay. Ditto above in all respects.
- (4) Gerygone flav. flav. (clutch 3 eggs and 1 parasite egg) 19th Dec. 1937.  
Data 3 Gerygone eggs perfectly fresh, 1 Chalcites 1/6 incubated veins and sack skowing.  
Clutch 1, 2, 3, 4, (and possibly more by native account).  
Nest Beautiful hanging domed woven nest (see specimens No. 7 taken).  
Situation from 4 to 8 ft. up invariably as far as known in dark foiled tree especially favours oranges, lemons, mandarines and low dark green densley leaved shrubs.





General Notes This species on Mare is very heavily parasited by Chalcites, of all nests examined 1 only was free of parasite eggs of Chalcites and both species are common.

In rapid observation as time available was short I came to the following conclusions but they need further observation to establish the real thing definitely but I believe I have arrived somewhere near the truth.

(1) Chalcites lays in nest just before Gerygone commences to lay. It may even possibly lay some time before or it may lay an egg which has actually commenced to slightly incubate in the parent bird but this would be unusual, but certainly no fresh eggs were ever found though numbers were found alone in nests. See eggs No. 2 and 3 as examples.

(2) More likely Chalcites when laying its egg robs the nest of any Gerygone eggs then present, as is a habit of certain cuckoos. It is possible the nest of Gerygone present difficulties to the young bird parasite to eject the rightful owners so nature has caused Chalcites to resort to egg stealing to help the young. In the above clutch eggs were not robbed but this was one case as against numbers of cases of single Chalcites' eggs.

As no nest with Chalcites eggs were found it seems likely Gerygone accepts the foreign egg without demur.

I do not think Chalcites parasites any other species. Unlike Petrocia on Erromanga, N.H. I saw no other parents feeding young cuckoos as I did in the case of Petrocia and Cacomantis, but each pair of foster parents attended to their own young cuckoo and others ignored its calls. I saw no case of parents feeding both young Gerygone and young Chalcites at the same time so evidently whether by egg theft or ejection of young the young cuckoo survives the expense of Gerygone.

An idea which occurred about the dark colour of this egg is that it may be a provision of nature to ensure rapid hatching as being black or dark by the first suggestion above that Chalcites lays before Gerygone which is made necessary by Gerygone's possible shorter hatching time. Definitely ♀ Chalcites are quieter and less conspicuous than ♂ and are greatly outnumbered by ♂'s.

Gerygone is very general all over the island but seems always to select a dark close leaved tree or shrub for nesting.





- (5) Gerygone flav. flav. 1 egg. 20th Dec. 1937.  
Data Absolutely fresh  
 Rest of data as above.  
 Only unparasited nest found.  
 Parent not seen but different shape and to usual.  
 May be other type of Gerygone. If so would be larger  
 white throated kind and No. 4 eggs would be of small  
 general all lemoned washed unders type.
- (6) Lichmera incana incana 22nd Dec. 1937  
Data 1 egg pale blue perfectly fresh.  
Clutch 2-4 (native report)  
Nest Cup shape, fibres vines etc. (Sample taken see  
 Nest No. (8))  
Situation 12-15 ft. up, well hidden amongst outer twigs  
 and leaves of wild lemon (large rough skinned lemon) in  
 native garden lands.  
General Notes This nest very rare and hard to find as  
 ♂ outnumber ♀ by 10 to 1. Even natives seldom find it  
 and it is unknown to many of them. Unfortunately was  
 leaving the area that day so took this specimen in case  
 unable to return for full clutch. Appears similar to New  
 Hebrides type as have found it there in orange trees.  
 Probably also prefers dark leaved dense trees.
- Goes with Nest No. 8.
- (7) Myagra cal. (mel?) (cal?) 3 eggs. 20th Dec. 1937.  
Data Perfectly fresh.  
Clutch 2, 3, occasionally 4 (native report)  
Nest Sample taken nest No. 9  
Situation 30 ft. up in Eritrine tree (cocoa mother) on  
 small twig on underside of smallish limb.  
General Notes Brought in by native but site examined by  
 me, undoubtedly Myagra. Evidently Myagra nests at various  
 heights. Where this nest was was native garden lands,  
 coffee etc. with scanty underbrush so a high position was  
 chosen. A lower one would be rather open and exposed.  
 Sometimes it looks as if protection from weather was  
 sought by these birds as nesting sites but I believe this  
 is often accidental as in a number of cases I observed  
 similar postions for Petrocia nests in N.H. but in the  
 majority of cases no such design seems to have been  
 planned.





Wednesday, 22nd December 1937

Weather. Very hot and thundery. Clouds 10%-80% 2 P.M. Wind light E.

Returned to Tadine for steamer. No American mail.(?)

Tadine AreaThursday, 23rd December 1937

Weather. Hot close muggy, odd showers, wind E to NE. Clouds 40%-100% 2 P.M.

Sorting Rawa material and skinning mammals. Letter arrived with mails.

Friday, 24th December 1937

Weather. Cloudy overcast, wind SE to NE. Clouds 60%-100%, showers all day, steady rain 4 P.M. onwards.

Sorting Rawa material, letter arrived with mails. No American.

Saturday, 25th December 1937 Xmas Day

Weather. Rain till 7 A.M. slowly fining till 12 P.M. Wind moderate SE to E to NE, variable showers off and on during afternoon. Clouds 80-100% all day.

Sorting Rawa and other materials for dispatch.

Sk. 133 Hypotaenidia ♂  $\frac{1}{1}$  - white

Caught by native dog margin Tadine village and garden lands. Soft parts usual. Has a parasitic tick (put in alcohol).

W. 141 Tl. 61 Wt. 222 grams Shot 8 A.M.

Moult W.R. (x) Abr. W/misud average VS

L. (x) T/L Nil

Nape 0 (Napulars 0)

Stm.  $\frac{1}{1}$  caterpillars, grubs Sk1.  $\frac{1}{4}$  ossif.

1 molluscs, seeds

lizard's tail

Sunday, 26th December 1937

Weather. Weather rough and squally, rain off and on all day. Winds E. Clouds 100%.

Packing and sorting for dispatch.





Monday, 27th December 1937

Weather. Showers off and on all day, winds squally E, SE and S., lightening at night, clouds 100%.

Packing for dispatch. Writing mail, etc.

Tuesday, 28th December 1937

Weather. Fine and clear, wind fresh W to SW (light, clouds 20-30%.

Writing mail, etc.

Nest Natives brought in nest of Lichmera, 3 eggs, white with few dark spots. They seem positive this is Lichmera and say they saw bird on nest. Nest I collected on 22 January was on way in to Tading and although I thought it was Lichmera as they were making a fuss, it may be incorrect but is very like what I took for Lichmera in N.H. Anyway I label both these Lichmera but believe the ones collected this date are more likely Lichmera and one collected on 22nd may be Zosterops lat. nig. as they were also about at time of taking, but it is a somewhat different nest of usual Zost. lat. Possibly data available in AMNH may clear this up.

Details of this nest are. Nest 10. Eggs in small tin, well labeled. Situated 15 feet up in small dark leaved tree amongst coconuts near houses in Ceni village (La Roche area, Rawa area).

Eggs 3, white few reddish spots. 1/4 incubated. Collected December 27, 1937.

Log closed for posting.

Wednesday, 29th December 1937

Weather. Fine clear, sunny, light NW winds (to fresh). Clouds 20-30%

Waiting for steamer. (Writing up N.H. notes to fill in time.)

Thursday, 30th December 1937

Weather. Fine clear, sunny, very hot and close. Wind light NW, clouds 20-30%.

Writing up N.H. notes. Waiting steamer.



Friday, 31st December 1937

Weather. Clear, close very hot, steamy. Clouds 30-40%.  
Wind light NW.

Waiting for steamer. On New Heb. notes.

Saturday, 1st January 1938

Weather. Rain previous night, fine clear sunny till 3 P.M.,  
clouding over, very steamy and hot. Short shower 11:30 A.M.  
Wind NE light, clouds 6 A.M., 10%; 9 A.M. 20%; 11 A.M. 40%;  
1 P.M. 20%; 3 P.M., 80%.

Dispatching consignment for Pierre Loti. 3 cases. Put in special  
care of 1st Mate for delivery to C. Sullivan, Sydney, Australia.

Birds Note The unknown bird call which I heard at Tadine and at  
La Roche and which I put down to an unknown hawk, I have  
definitely during the last 3 days traced to Philemon.  
It is a pursuit call of an enraged bird I think as I have  
seen and heard the birds giving it when in pursuit of  
another. Philemon is a bird of territory.

Sunday, 2nd January 1937

Weather. Fine clear sunny, very hot, wind light NE. Clouds  
30-40%-0%.

Letter writing, etc.

Monday, 3rd January 1937

Weather. Fine clear sunny, wind light W to SW, clouds 5-50%,  
variable. Rain at night.

Walked to Nedu to arrange about camp.

Saw usual run of birds. Philemon seems more numerous around south  
coast. Saw Frigata minor circling over land. Heard group of Tyto  
calling during day. Saw no Demigretta.

Sk. 134 Myzomela ♂ sub ad. 1-white  
4

Gape soft yellowish. Coconut trees on coast. Shot damaged.

W. 60 Tl. 41 Shot 9 A.M. Wt. 9 grams

Moult chin 0

Abr. W/T. N.

Stm. 1 insects

Sk1. not ossif.

1

(chewed up flowers?)





Tuesday, 4th January 1938

Weather. Fine clear, sunny, very hot. Wind light NE. Clouds  
40-50% sirius

Skinning and packing up preparatory to shifting camp.

Wednesday, 5th January 1938

Weather. Clear sunny, heat haze, very hot. Clouds 40-50%.  
Wind light NE. Shower in afternoon, clouds 60-80%.

Type Bush. Native garden lands, open grassland, 30 ft. scrubs.  
Lantana gant. Very similar to Rawa margins. Volcanic  
and coraline.

Birds. Noted usual run of birds. Columba very common. Day  
excessively hot and bird beginning to camp before 8 A.M.  
Not abrasion is excessive on every bird shot.

Sk. 135 Lichmera ♀ 1 - (repon)  
2

Lantana gant. Gape soft yellowish white. Specimen very  
fat.

<u>W.</u> 65	<u>Tl.</u> 52	<u>Wt.</u> 12.5 grams	<u>Shot</u> 9:A.M.
<u>Moult</u>	W.R.L. (x)	<u>Abr.</u>	W/T V.M.
	TL covs. <u>0</u>		Much body abrasion and lack of colour.
	All unders <u>0</u> breast <u>C</u>		Tail covs VVM abraided
<u>Stm.</u> <u>1</u>	honey and insects		
	1		

Sk1. comp. ossif.

Zosterops flav. ♂ imm. 0 + yellowish - white  
0

Short secondary growth.

<u>W.</u> 57	<u>Tl.</u> 45	<u>Shot</u> 8:30 A.M.	<u>Wt.</u> 13.15 grams
<u>Moult</u>	Nil	<u>Abr.</u>	TL. (x)
<u>Stm.</u> <u>3</u>	seeds	<u>Sk1.</u>	not ossif.
	4		

Sk. 135A Lichmera ♀ 0 + (OVSE conspicuous) (Ovary colourless,  
0

transparent)

Gape soft yellowish. Lantana gant. Specimen very fat.

<u>Shot</u>	6 P.M.	<u>Wt.</u>	122 grams
<u>Moult</u>	piv <u>0</u>	<u>Abr.</u>	W/T V.S. body F. espec.
<u>Stm.</u> <u>1</u>	insects		rump back, breast
	1	<u>Sk1.</u>	<u>1</u> ossif.
			2





Sk. 135 B Lichmera ♂  $\frac{0}{0}$  + white

As above. Very fat.

Shot 6:15 P.M.

Wt. 15 grams

Moult low back  $\frac{0}{0}$  )

Abr. W/T M

up " covs.) all unders covs.

nape covs.)

crown covs.)

Stm  $\frac{3}{4}$  insects

Skl.

Thursday, 6th January 1938

Weather. Rain of and on all day after 10 A.M. Rain previous night. Clouds 80-100%, wind light NW.

Bush. Low 30 ft. scrub, garden lands, low 30 ft. trees, much pandanus and ferny underbush. Tall 40-60 ft. forest, ferny underbrush. (teak trees, etc.) Original forest of Mare. Soil coralline and volcanic moisture. Open grassland plains. Noted sharpness of division between tall forest and grasslands.

Birds Seen. Searched all day in most suitable type of country for Turdus and none seen, (one brief sight which might have been Turdus. Note Gerygone frequents open grasslands. (N.B. sandal wood in grasslands.) One Porphyrio heard at sunset in garden lands. One Zost. lat. shot several seen on open grassland plain. 1 Circus seen on grasslands. Doubt Turdus will be obtainable. (Route Area covered south to behind Nedu, E along south coast. North east and north west to grasslands, W to camp.)

Sk. 136 Zost. lat. ♂  $\frac{1}{1}$  + white (AT  $\frac{1}{1}$  ++)

Shot damaged.

(  $\frac{1}{1}$  )

(LT  $\frac{1}{1}$  + )

1

Open grasslands. 5:30 P.M. Singin in isolated low tree. Showers. Bird very fat.

W. 63 Tl. 51

Wt. 15.25

Time 5:30 P.M.

Moult W.L. 8, 9.

Abr. W/C

All uppers  $\frac{0}{0}$  x nape M T/F

All unders  $\frac{0}{0}$  nape chin C

Stm.  $\frac{1}{2}$  banyan seeds (figs

Skl. comp. ossif.

2



Friday, 7th January 1938

Weather. Showers off and on all day, few patches of sun for few minutes. Clouds 80-100%. Winds N, light airs.

Birds. Usual kinds seen, etc.

Erythrura notes, starving after rain.

Erythrura ♂  $\frac{3}{4}$  + white - yellowish tinge.

Shot sundown native garden lands (badly shot damaged)

W. 56    Tl. 49    Wt. 14.1 grams    Shot 6:30 P.M.

Moult W.R. (x) 5, 6, 15

Abr. W/ S

TL red tail covs. M

T/N x 2 longest V.S.

All upper M

All unders M

Stm.  $\frac{3}{4}$  seeds

Sk1. comp. ossif.

Sk 136A Ditto above ♀ imm.  $\frac{1}{4}$

Juv. no blue on head.

Wt. 13.2 grams    Shot 6:30 P.M.

Moult upper back C rest of uppers 0    Abr. W/T N

all unders C or 0

Stm.  $\frac{1}{1}$  seeds

Sk1. not ossif.

crop  $\frac{1}{1}$  fig and grass seeds and tassel seeds.

Saturday, 8th January 1938

Weather. Very hot and close, monsoonal, rain at night. Clouds 40-90%.

Shifted camp to Leperorium de Bone area. Walked back to Tadine for steamer.

Saw Circus open grasslands.

Sunday, 9th January 1938

Weather. As previous day, very very hot.

Writing mails.





Monday, 10th January 1938

Weather. As previous day but showers off and on, monsoonal.

Steamer arrived. No cotton. Means shortage of cotton.

Tuesday, 11th January 1938

Weather. Monsoonal showers and sun, very hot.

Arranging gear for camp, etc.

Wednesday, 12th January 1938

Weather. Rain off and on all day, clouds 80-100%.

Went out to Lepersorium de Bone campe. Saw 1 Circus. After Porphyrio in native garden lands. Heard 1 call.

Thursday, 13th January 1938

Weather. Rain till 12 A.M., showers later. Clouds 60-100%.

After Porphyrio in native garden lands, 2 seen, 1 shot after dark but not found. Mate came close calling much.

Friday, 14th January 1938

Weather. Sun and few showers, clouds 60%. Wind SE to E.

Morning before daylight, no Porphyrio seen or calling. During day Porphyrio silent and camped, begin moving about 5 P.M. Scouring native garden lands. 4 Porphyrio in 2 groups of 2 seen at wide intervals, 1 of each shot. Eat plantain bananas much, taro also, some sugar cane but bananas mostly. One Accipiter seen and shot. Note Erythrura roosts in dark green trees here as at Rawa.

Sk. 137 Porphyrio ♀ 1 - O.C.E. Breeding patch. Alain C. occyte 5 mm  
1 several 4.5 mm

Shot 5 P.M. native garden lands. Very fat.

Iris reddish brown Bill dark red, lighter edges, pad light red.

Legs and feet pink, darker on joints, claws black horn

W. 238 Tl. 83 Wt. 564.5 grams

Moult upper back 0 nape 0 crown 0 Abr. W/F

breast 0 neck, chin M T/F

cheeks M Appears to be pulling breast feathers for nest.

Stm. 1 vegetable matter Sk1. the chest opaque but not ossif.

1 beetles  
molluscs





Sk. 138 Porphyrio ♂  $\frac{3}{4}$  - white

Native gardens feeding on platin.

Soft parts as above. Badly shot damaged. Very fat.

W. TL. Shot 6 P.M. Wt. 719.5 grams

Moult upper back 0 nape crown C to M Abr. W/M  
breast C neck chin C to M T/C

Stm. 1 vegetable matter Skl.  $\frac{4}{5}$  ossif.  
1 molluscs 5

Sk. 139 Accipiter ♂  $\frac{1}{2}$  + yellowish. (same granulate appearance)

Native garden lands.

W. 245 TL. 186 Shot 4 P.M. Wt. 301

Moult W.R. 4, 5F, 10, 14, 19F) Abr. W: outer 3 prin M  
L 4, 5F, 10, 14F 22 ) inners N tail mixed  
all uppers M, all unders M average F  
TL. R 6F, L.3. covs. M

Stm. 1 green iguana Skl.  $\frac{7}{8}$  ossif.  
1 1 cricket 8

Saturday, 15th January 1938

Weather. Very windy, E to NE, stiff rains, etc. Clouds 80-100%.

Birds. Saw 2 Circus over open grassland. Searched in original forest for Turdus. No sign whatsoever. Found Lalage nesting in low clump trees in open grassland near banyan tree. Nest simple trip to fork 10 ft. from ground, 2 eggs and nest taken. Also Myagra nesting in similar tree simple triple fork top of tree 15 ft., no cover. Nest decorated with lichen, no eggs. Also Zost. lat. nesting in hanging vines within 3 ft. off ground. Open grassland seems to be general nesting ground.

Sunday, 16th January 1938

Weather. Strong winds E to NE, gusty, rattling stiff rain, cloud 100%.

In camp all day.

Monday, 17th January 1938

Weather. Dull, overcast, windy, easterly, clouds 100%. Heavy rain from 4 P.M. onwards.

Went through west Eni district after Turdus found none.



Tuesday, 18th January 1938

Weather. Wind and rain all day, wind E, clouds 100%.

Shifting camp gear back to Tadine by auto.

Wednesday, 19th January 1938

Weather. Dull cloudy, clouds 80-100%, wind SE. Rain during afternoon.

Type Bush. Virgin bush, native garden lands about SE point of island (Cap Boyer).

After Turdus all day early and late, absolutely no sign. Ideal country but no sign whatsoever.

Sk. 139 A Accipiter ♀ 1 - repose  
2

Shot in virgin forest far from clearings, tall 40 ft. trees. Interior Cap Boyer. 2 P.M. dull cloudy. Not weighed or measured, skinned on trek. In shocking moult condition, no taxidermist value. Taken only to give yearly picture of life.

Moult TL R.1.L.1,5 up covs M  
nape C crown M  
all unders 0

Stm. 1 native black rat  
1

Abr. W mixed aver. F  
TL " " C some M

Neck abraided right away.

Body very much abraided,

Much color abrasion especially  
on back.

Has large flying tick parasite, put in alcohol

Noted unmistakably Falco periginus hawking along tall forest margin and grasslands, wounded but did not drop. Easily distinguished by rapid wing beats from Circus or Accipiter.

Also noted a bird like Circus (possibly was Circus) but appeared to have wedge shaped tail, may have been Haliastur as it appeared slightly larger than Circus. Was hawking along forest grassland margins, slow and graceful but no call and at too great a distance for good identification.

Thursday, 20th January 1938

Weather. Dull, showery. Clouds 100%. Wind SE.





Sk. 140 Zosterops (lat.) ♀  $\frac{0}{0}$  + (Imm.)

Shot open grasslands. Centre of island.

W. 60 Tl. 46 Shot 7:30 A.M. Wt. 13.7 grams

Moult W.L. low covs.  $\frac{0}{0}$  Abr.

back  $\frac{0}{0}$  crown  $\frac{0}{0}$

neck  $\frac{0}{0}$

Stm.  $\frac{0}{0}$  minute scale insects, etc. SkI. Not ossif.

0

Sk. 141 Ditto above ♂  $\frac{3}{4}$  - white

Ditto above area grasslands

W. 63+ Tl. 46+ Shot 8:30 A.M. Wt. 12.2 grams

Moult upper back M Abr. W/M

odd body scattered. T/VM

Stm.  $\frac{1}{2}$  insects

Considerable body abrasion

2

especially on body giving

SkI. comp. ossif.

different colour tone.

Sk. 142 Ditto above ♂  $\frac{1}{4}$  white. Imm.

Has distorted breast bone and ribs.

Shot open grassland 7:35 A.M.

W. 63 Tl. 47

Wt. 14 grams

Moult upper back, crown  $\frac{0}{0}$

Abr. W/S

unders  $\frac{0}{0}$  few

T/F

Stm.  $\frac{3}{4}$  insects

SkI.  $\frac{1}{10}$  ossif just commencing.

4

10

Sk. 143 Ditto above ♂  $\frac{1}{4}$  - RT black)  
4 LT white)

Shot open grasslands 9 A.M.

W. 62 Tl. 48

Wt. 14.3 grams

Moult all uppers M

Abr. W. slight

all lowers M

Stm.  $\frac{3}{4}$  insects and seeds

SkI. not ossif.

4

Friday, 21st January 1938

Weather. Fine, clear, sunny, light SE wind. Clouds 10-20%.

Arranging for trip to small island, Doudoune, NW of Mare Island.

Saturday, 22nd January 1938

Steamer day. Fine.





Sunday, 23rd January 1938

Fine. Cloudy at times

Monday, 24th January 1938

Fine, hot and sunny.

Tuesday, 25th January 1938

Cloudy, dull. Showery. Wind SW to E. Clouds 100%.

Sk. 144 Corvus ♂ 1 - white  
2

Shot 30' forest area near coast.

W. 249 TL. 167 Shot 8:30 A.M. Wt. 297.5 grams

Moult W covs. M Abr. W slight)

T. covs Cons. TL covs.)

low back M

back cov breast covs.

Belly M neck 0

Sk1. comp. ossif.

Stm. 3 beetles and mantis

4

Wednesday, 26th January 1938

Weather. Overcast, showers off and on all day, wind light E to SE. Clouds 80-100%.

In camp all day with cold.

Thursday, 27th January 1938

Weather. Fine, sun and clud, very hot, light E wind. Clouds 60-80%.

Compass through coastal scrubs. Birds in shocking taxidermic condition, depth of moult in nearly all species.

Rhipidura ♂ 1 - (?) Draft for moult sample, last specimen  
2

in day. Coastal scrubs.

W. 73 TL. 89 Wt. 12.8 grams Shot 8:30 A.M.

Moult W.R. 4, 15f) sec M covs M Abr. W/T N

L ditto )

TL R.1.6, Li covs A

Sk1. comp. ossif.

All uppers 0 x crown M

Stm. insects

all unders C



Friday, 28th January 1938

Weather. Close steamy, monsoonal, sun, cloud and showers,  
light northerly airs. Clouds 60-80-100%

Bush. Coastal scrubs, native garden lands.

Birds. Birds in really too bad taxidermic condition for skinning.  
Examined 2 Aplonis which were in 1st class order, some  
primary moult by bodies almost completely moult. Gerygone  
very bad, Myagra very bad, Zosterops 2 spec. very bad,  
Lalage very bad, Lichmera very bad abrasion.

Sk. 144A Zosterops lat nic. ♀  $\frac{1}{2}$  - trace rt. ovary.

W. 64 & 62R. Tl. 46 Shot 7-9 A.M. Wt. 12.6 grams  
Moult uppers 0 few Abr. W/T M considerable body abrasion  
W (x) especially colour abrasion  
Stm.  $\frac{1}{2}$  chili Skl. comp. ossif.

Sk. 144B Zosterops flav. ♀  $\frac{0}{0}$  +

Coastal shrubs.

W. 57 Tl. 45 Shot 7 A.M. - 9 A.M. Wt. 10.4 grams  
Moult Nil Abr. W Nil )  
Stm.  $\frac{1}{5}$  Tl slight body M)  
Skl.

Zost. flav. shot native garden lands. Unsuitable for skins.  
7-9 A.M.

	<u>W.</u>	<u>Tl.</u>	<u>Wt.</u>	<u>Gon.</u>	<u>Skl.</u>	<u>Stm.</u>
(1) ♀ 59	44.5		11.6 grms	♀ $\frac{0+}{0}$ Juv.	Not ossif.	$\frac{1}{2}$ paw paw
<u>Moult</u>	W.R. (x)		6.16 Secs & covs	<u>M</u>	<u>Abr.</u> W. covs.	T fair
	W.L. 5, 6, 16		all uppers	<u>0</u>		Cons. color
	Crown M		fore all			
(2) ♀ 60	47+		10.3 grms	♀ $\frac{1}{2}$ -	$\frac{9}{10}$ ossif.	$\frac{1}{4}$ chilis 4 insects
<u>Moult</u>	W.R. 8, 9 f)		Secs & covs	<u>M</u>	<u>Abr.</u> W. <u>M</u>	
	L. 8, 9 f )				Tl <u>V.M.</u>	
	Tl covs M					
(3) ♂ 62	49		10.9 grms	♂ $\frac{1}{2}$ white	Comp.ossif.	$\frac{1}{4}$ chilis
<u>Moult</u>	uppers <u>0</u>		forehead <u>M</u>	<u>Abr.</u> W. <u>M</u>	Tl. <u>V</u> <u>M</u>	
	cheeks <u>M</u>		unders <u>0</u> chin <u>M</u>		Color <u>M</u>	
(4) ♀ 56+	45.		10.2 grms	♀ $\frac{1}{2}$ +	O.S.E. comp.ossif.	$\frac{1}{2}$ figs, insects
<u>Moult</u>	Tl. covs <u>M</u>		cheeks <u>M</u>	<u>Abr.</u> W. <u>M</u>		
	Forehead all		chin all		Tl <u>V</u> <u>M</u>	
(5) ♀ 58.	45.		11.1 grms	♀ $\frac{1}{4}$ -	$\frac{1}{10}$ ossif.	$\frac{1}{2}$ 2 large paw paws
<u>Moult</u>	unders <u>0</u>		chin covs.	<u>Abr.</u> W/Tl <u>fair</u>		Color covs.











Gerygone white unders, lemon flanks ♂  $\frac{1}{2}$  white

Plateau 25 ft. scrubs.

W. 55 TL. 45 Shot 8 A.M. Wt. 7 grams  
Moult W.R. 5, 10, 18 ) secon.)M Abr. W. misud N to M  
 L. R. 5, 10, 18) covs. ) aver. F.  
TL covs. 0 TL misud F to M  
 back, nape, crown M aver. C  
 all unders M  
Stm.  $\frac{1}{2}$  scale insects, ants Skl. comp. ossif. ? damaged  
 2

Sunday, 30th January 1938

Weather. Constant heavy rain all day, wind moderate N.E.  
 Clouds 100%.

Monday, 31st January 1938

Weather. Sun and cloud but fine wind NE moderate, clouds 80%.

Sorting material for packing. Bird shot but moult too heavy  
 for skins.

Tuesday, 1st February 1938

Weather. Heavy rain off and on all day, clouds 80-100%.

Wednesday, 2nd February 1938

Weather. Sun and showers slowly clearing, clouds 60-80%.

Thursday, 3rd February 1938

Weather. Fine and hot, steamy, clouds 40-50%.

Packing to go to Lifu.

Friday, 4th February 1938

Weather. Showers and sun. Clouds 60-80%.

Packing.

Saturday, 5th February 1938

Weather. Fine, clear sunny, very hot. Clouds 30%.



Sunday, 6th February 1938

Weather. Fine clear, sunny, very hot, clouds 20-30%.

Noted Myagra nest beside busy road on flat limb of small tree only 6 ft. from ground. 1 egg.

Went aboard Faulk for Lifu.

Monday, 7th February 1938

Aboard M.S. Phoque

Weather. Fine clear, sunny, light ESE breezy, clouds 30%.

Anchored off Lifu. Decided birds were in too bad plumage here also, so proceeding with Phoque to Uvea to try for sea birds till plumage improves somewhat.

Sent radio to Mayr. Wire 200 Noumea, cancel Sydney, repeat 20410 cartridges. Later received mail from Mayr aboard.





REPTILESMare Island

- Large Vial Tag  
No. 1 No. 1 2 sun lizards (iguana ?) found 26-30th November 1937 during rainy wet wather, (hurricane NW of Group). Common in area runs up coconut palms etc. generally keeping on side of tree opposite observer. La Roche area NE of island. Low forest, 20 ft. trees, native gardens and secondary growth and extensive grassland plains. Is found in all these types of vegetation.
- Tag  
No. 2 2 indig snails long spiral. 2 introduced snails, 1 slug. 26-30th November 1937. The introduced snails are said to have been brought by Frenchmen long ago and have spread all over island. The indig. kind are very common all over island especially in type of stag or bird's nest ferns which grow all through the forest floor, especially in coral patches of old marine uplift.
- Tag  
No. 3 8th - 11th December 1937  
9 iguanas taken from Rawa district (N central). (District described below).
- Tag  
No. 4 4 geckos  
Rawa (N. Central) district (see below).
- Tag  
No. 5 22 small lizards in one wrapping marked 5.  
Rawa area
- Tag  
No. 6 1 snake - common rock and tree python.  
Collected in Rawa area. 8th-11th December 1937.

Description of Rawa area: Situate volcanic hill, original peak (or one of original peaks) of island and rising 100' above surrounding plains. Good depth of volcanic soil, probably 150 acres in extent, surrounded by usual coralline formation. Much of area is under cultivation, say 50% - remainder open grass land and 20'-30' forest with limited forest to the south of 60'-70' trees. Observers present at Rawa village 8th to 11th December 1937 inclusive.





See Bird Log for fuller data Rawa area.

Large Vial Tag.

No. 1 No. 7 Snails collected Rawa area  
8th - 11th December 1937

Tag.

No. 8 1 large, 4 small molluscs  
In one wrapping. Collected in Rawa area  
(N. Central district) - 17th - 22nd December 1937.

December, 1937 (continued)

No. 1 No. 11 1 small, 2 medium, 2 small molluscs, 1 small  
No. 2 No. 12 1 small, 1 medium, 1 small mollusc  
No. 3 No. 13 1 small, 1 medium, 1 small mollusc

December, 1937 (continued)

No. 4 No. 14 1 large, 1 small mollusc, 1 small  
No. 5 No. 15 1 large, 1 small mollusc, 1 small  
No. 6 No. 16 1 large, 1 small mollusc, 1 small

No. 7 No. 17 1 large, 1 small mollusc, 1 small  
No. 8 No. 18 1 large, 1 small mollusc, 1 small  
No. 9 No. 19 1 large, 1 small mollusc, 1 small

December, 1937 (continued)

No. 10 No. 20 1 large, 1 small mollusc, 1 small  
No. 11 No. 21 1 large, 1 small mollusc, 1 small  
No. 12 No. 22 1 large, 1 small mollusc, 1 small

December, 1937 (continued)

No. 13 No. 23 1 large, 1 small mollusc, 1 small  
No. 14 No. 24 1 large, 1 small mollusc, 1 small  
No. 15 No. 25 1 large, 1 small mollusc, 1 small  
No. 16 No. 26 1 large, 1 small mollusc, 1 small  
No. 17 No. 27 1 large, 1 small mollusc, 1 small  
No. 18 No. 28 1 large, 1 small mollusc, 1 small  
No. 19 No. 29 1 large, 1 small mollusc, 1 small  
No. 20 No. 30 1 large, 1 small mollusc, 1 small



## -WOGS-

Sunday, 14th November 1937

No. 1      Large      Large wood boring beetles. Inhabit stand-  
SP      Vial      ing and fallen rotten hard and soft wood  
         No. 1      Found in La Roche areas. NE of island.

Saturday, 20th November 1937

No. 2      Large      Large spiders found in Tadine area, SW  
SP      Vial      of island. Common throughout forest lands,  
         No. 1      native garden lands, low hardwood scrubs  
                      and secondary growth, etc.

Saturday, 20th November 1937

No. 3      Small      Earwigs, 2 scorpions, 2 small spiders, 2 small  
SP      Vial      snails and mixed small beetles and grubs  
         W. No. 2      found in forest and native garden lands.  
                      Tadine area. SW of island.

Saturday, 20th November 1937

No. 4      Dry      Large grasshopper type insect. Feeds off  
         Paper      leaves of coconut palm and similar vegetation.  
         Cylinder      Does considerable damage. Found near sea on  
                      coastal flats. Tadine area. SW of island.

No. 5      Dry      3 large, 1 small butterflies in separate  
         Paper      envelopes all marked No. 5. Common native  
         Envelopes      garden lands, secondary scrubs and low hard-  
                      wood scrubs, occasionally in 30-40 ft. forest.  
                      Tadine area, SW of island.

Monday, 22nd November 1937

No. 6      Dry      2 moths caught in dwelling house, near sea.  
         Paper      Common. Paper envelope marked No. 6.  
         Envelope

Tuesday, 23rd November 1937

No. 7      Dry      1 leaf aphid caught on low shrub in low open  
         Paper      hardwood scrubs of plateau top of island  
         Envelope      1 mile inland. Shrub has autumn tinted  
                      leaves. Insect pink or russet pink tinge  
                      when killed. Said to be fairly common on  
                      coloured leaved shrubs, garden shrubs, etc.  
                      and in forest but not easily seen except  
                      when moving. Paper envelope marked No. 7.





26-30th November 1937

- No. 8      Large      Weather    Wet, windy, 15' rain. Hurricane  
SP      Vial      200-300 miles NW of island  
         No. 1  
         Large stick insects, found in La Roche area  
         NE of island. Feeds on leaves of small  
         shrubs (bright coloured soft leaf some-  
         thing like maple) and rests on limbs of  
         same. Common in low open hardwood scrubs,  
         secondary garden growths, etc.
- No. 9      Large      Grubs and caterpillars found La Roche area.  
         Vial      (Some wood grubs edible). Some alcoholic  
         No. 1      colour change, general dulling.
- No. 10     Large      Beetles found on vegetation, weevils on dry  
         Vial      wood. Low bush and garden lands. La Roche  
         No. 1      area NE of island
- No. 11     Small      Small insects found in La Roche area, NE of  
SP      Vial      island. Put in separate cloths from top to  
         No. 3      bottom. Top, 3 varieties of ants. 2nd,  
         Wogs      earwigs of crawling insect. 3rd grubs found  
              on bark of trees. Note bottom spiders.  
              Caution Operator Natives claim these red  
              back spiders are very poisonous.
- No. 12     Bottle      Large leaf eating insect, put in alcohol to  
SP      No. 4      show abdomen, parasitic worm and organs.  
         Wogs
- No. 13     Dry      Large leaf eating insect. Common on coconuts  
         Paper      and elsewhere. Collected in Tadine area (SW  
         Cylinder      of island) but found all over island.

26-30th November 1937

- No. 14     Dry      Wasps and Mason bee collected La Roche area  
         Paper      (NE of island). Put in alcohol by mistake  
         Cylinder      of collector.

26th November 1937

- No. 15     Dry      2 hawk moths (separate envelopes) La Roche  
         2 Paper      area NE of island.  
         Envelopes





26-30th November 1937

No. 16 Dry 2 small butterflies in one envelope. La Roche  
Paper area NE of island. Yellow one slightly damaged.  
Envelope

26-30th November 1937

No. 17 Dry 1 butterfly caught La Roche area, native  
Paper garden land  
Envelope

26-30th November 1937

No. 18 Dry 1 butterfly (damaged) ditto above.  
Paper  
Envelope

26-30th November 1937

No. 19 Dry 5 butterflies, forest, scrub and garden lands  
Paper La Roche area. (separate envelopes)  
Envelopes

1st December 1937

No. 20 Dry La Roche area. 1 leaf mantis (yellow),  
Paper found in ornamental shrub. 1 dry shed  
Envelopes skin of same. 2 envelopes.

5th December 1937

No. 21 Paper Weather, sun and showers. Tadine area SW  
Cylinders of island. Coastal flats, open grasslands  
of village and native garden lands.  
  
2 large leaf eating insects found on coconut  
palm fronds. 2 cylinders marked No. 21

8-11th December 1937

No. 22 Dry 2 butterflies - separate envelopes  
Paper  
Envelopes

RAWA AREA - NORTH CENTRAL DISTRICT

8-11th December 1937

No. 23 Dry 3 butterflies - separate envelopes. Rawa  
Paper district.  
Envelopes



No. 24 Dry Butterfly. Rawa (N. Cent.) district  
Paper  
Envelope

No. 25 Dry Butterfly Rawa (No. Cent.) district  
Paper  
Envelope

8-11th December 1937

No. 26 Dry Hawk moth. Rawa (No. Cent.) district  
Paper  
Envelope

8-11th December 1937

No. 27 Dry 4 butterflies. (separate envelopes)  
Paper Rawa (No. Cent.) district  
Envelope

8-11th December 1937

No. 28 Dry 2 small moths. Same envelope.  
Paper Rawa (No. Cent.) district  
Envelope

No. 29 Dry 3 butterflies - separate envelopes  
Paper Rawa (No. Cent.) district  
Envelopes

No. 30 Dry 1 small butterfly  
Paper Rawa (N. Cent.) district  
Envelope

8-11th December 1937

No. 31 Dry 2 butterflies (separate envelopes)  
Paper Rawa (N. Cent.) district  
Envelopes

No. 32 Dry Butterfly. Rawa (N. Cent.) district  
Paper  
Envelope

No. 33 Dry Butterfly. Rawa (N. Cent.) district  
Paper  
Envelope





- No. 34 Dry Paper Envelope 1 Butterfly. Rawa (N. Cent.) area.
- No. 35 Dry Paper Envelope 1 butterfly. (Rawa, N. Cent.) area
- No. 36 Dry Paper Envelope 1 leaf aphid. Taken from Rawa area - N. Central district of island
- No. 37 Dry Paper Cylinder 1 locust type insect. Taken from Rawa area, N. Cent. district
- No. 38 Dry Paper Cylinders 4 stick insects. Separate envelopes marked 38.

Rawa area situated North Central portion of island. Observers present at Rawa village 8th-11th December 1937. The village is situated on a volcanic hill. The original peak of the island around which coral formation has grown, and rising about 100' above surrounding plains. There is a good depth of volcanic soil around central knoll which assures healthy cultivation. A considerable portion of this district is under cultivation - probably 50% - whilst the remainder is open grasslands and 20-25% forest.

- No. 39 Large Vial No. 1 SP Moth Larvae 21 specimens - Considerable color changes in alcohol. Collected Rawa area (N. Cent.)
- No. 40 Large Vial No. 1 SP 3 large stick insects Rawa (N. Cent.) area
- No. 41 Large Vial No. 1 SP Large Spiders Collected Rawa area





No. 42 Large Weevils - Collected Rawa district  
 Vial  
 No. 1  
 SP

8-11th December 1937

No. 43 Large Beetles - Rawa (N. Cent.) area  
 Vial  
 No. 1  
 SP

No. 44 Large Caterpillars Rawa area  
 Vial  
 No. 1  
 SP

No. 45 Small 2 Scorpions Rawa area  
 Vial  
 No. 5

No. 46 Small Small beetles Rawa (N. Cent.) area  
 Vial  
 No. 5  
 SP

No. 47 Small 2 small spiders Rawa area  
 Vial  
 No. 5  
 SP

No. 48 Small Miscellaneous grubs Rawa (N. Cent.) area  
 Vial  
 No. 5  
 SP

No. 49 Dry Wasp Rawa (N. Cent. Area)  
 Paper  
 Cylinder

Butterflies and Moths

Captured Rawa 17th December 1937

No. 50 Dry 28 paper envelopes marked WOG Log No. 1  
 Paper Item No. 50  
 Envelopes



No. 51	Large Vial No. 1 SP	Small beetles
No. 52	Large Vial No. 1 SP	Large beetles
No. 53	Large Vial No. 1 SP	1 large spider
No. 54	Large Vial No. 1 SP	Caterpillars
No. 55	Large Vial No. 1 SP	Scorpions
No. 56	Small Vial No. 5 SP	Miscellaneous. 2 specimens.
No. 57	Dry Paper Cylinder	1 mantis
No. 58	Dry Cylinder	1 wasp
No. 59	Dry Paper Envelope	2 moths in separate envelopes No. 59 Collected Tadine area. Caught in residence. 24th December 1937
No. 60	Dry Paper Cylinder	1 grasshopper - Tadine area. Found 11 P.M. inside residence. 24th December 1937.















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